S. HRG. 99-919

OTA REPORT ON INTELLECTUAL PROPERTY RIGHTS IN AN AGE OF ELECTRONICS AND INFORMATION

JOINT HEARING

SUBCOMMITTEE ON
PATENTS, COPYRIGHTS AND TRADEMARKS
OF THE
SENATE COMMITTEE ON
THE JUDICIARY
AND THE
SUBCOMMITTEE ON COURTS, CIVIL LIBERTIES, AND
THE ADMINISTRATION OF JUSTICE
OF THE
HOUSE COMMITTEE ON
THE JUDICIARY

NINETY-NINTH CONGRESS

SECOND SESSION

ON

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FOR THE PROTECTION OF INTELLECTUAL PROPERTY

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OTA REPORT ON INTELLECTUAL PROPERTY RIGHTS IN AN AGE OF ELECTRONICS AND INFORMATION

WEDNESDAY, APRIL 16, 1986

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON COURTS, CIVIL LIBERTIES, AND THE ADMINISTRATION OF JUSTICE OF THE COMMITTEE ON THE JUDICIARY, JOINT WITH U.S. SENATE, SUBCOMMITTEE ON PATENTS, COPYRIGHTS AND TRADEMARKS OF THE COMMITTEE ON THE JUDICIARY,
Washington, DC.

The subcommittees met, at 10:15 a.m., in room SR-301, Russell Senate Office Building, Hon. Robert W. Kastenmeier (chairman of the House subcommittee) presiding.

Also present: Senators Mathias and Specter.

Staff present: Michael Remington, chief counsel; Deborah Leavy, counsel; Audrey Marcus, clerk (House subcommittee); Steve Metalitz, chief counsel; Matt Gerson, counsel; and Pamela Batstone, chief clerk (Senate subcommittee).

OPENING STATEMENT OF HON. CHARLES McC. MATHIAS, JR., A U.S. SENATOR FROM THE STATE OF MARYLAND, CHAIRMAN, SUBCOMMITTEE ON PATENTS, COPYRIGHTS AND TRADEMARKS

Senator MATHIAS. The committee will come to order.

I do not think it an exaggeration to say that we are making some history this morning as we convene the first joint hearing ever held by the Senate Subcommittee on Patents, Copyrights and Trademarks, and the House Subcommittee on Courts, Civil Liberties, and the Administration of Justice. We are taking this unusual step to gain some insight into a larger historical development: the impact of technological change on the legal system for the protection of intellectual property.

Three years ago, just shortly after the Senate Judiciary Committee reconstituted its subcommittee on intellectual property issues, I joined Chairman Kastenmeier and other Members of the House of Representatives in asking the Office of Technology Assessment to look into this very pressing question. We are meeting today to receive OTA's response to this request, which is a comprehensive report on "Intellectual Property Rights in an Age of Electronics and Information."

Powerful new technologies are obviously transforming the ways in which Americans express themselves, communicate information, and push back the frontiers of science. We do not need OTA to confirm the fact that rapid technological change is the constant in the

modern world. What we do need is OTA's wisdom to suggest how the legal system can keep up with this rapid rate of change.

Our patent and copyright laws have contributed to the progress of this Nation since the birth of the Republic. Throughout history, intellectual property law has sought to carry out the constitutional mandate to promote the progress of science and useful arts. The legal system that has developed under this constitutional mandate has helped to encourage innovation and foster creativity. It is one of the reasons why our country has been a pacesetter in science, a leader in technology, and a breeding ground for artistic and creative achievement.

Today, we are more aware than ever before of the economic impact of intellectual property. American agricultural products and manufactured goods remain important, but today's world market values us less for what we make or what we grow, and more for what we communicate and what we know. So we depend on patents and copyrights not only to encourage creativity, but also to ensure prosperity.

The question before the Congress is whether our intellectual property laws and institutions can carry this burden. The rapid pace of technological change threatens to outstrip the ability of our existing system to fulfill its social and economic responsibilities. Some people feel that fundamental change in our legal structures is the only adequate response to the fundamental changes that are remolding the terrain of creativity and invention in America.

The report that we are receiving today summarizes the changes resulting from new technology, and it attempts to synthesize the challenges confronting the legal system. It should prove to be a valuable resource as Congress seeks to guide American intellectual property law into our third constitutional century.

Before we hear from the report's authors and those who advised them in the preparation of the report, and before I yield to the chairman, I would like to mention just two other resources that I think will help the Congress in its task.

First, we have to understand that the challenge before us, while in many ways unprecedented, still has some familiar features. Intellectual property law has always had to adapt to technological change; and it has managed to do so with a high degree of success. The concept of copyright itself is a response to the new technology of centuries past which is, of course, the printing press. The framers of the Constitution could never have anticipated that the writings they sought to protect would include sound recordings, motion pictures, and computer programs; nor could they have foreseen that the synthesis of a living organism would qualify as a patentable discovery. But since the first Congress, when our original patent and copyright laws were written, the statutes protecting intellectual property have been flexible enough to achieve their goals despite sweeping changes in technology.

Thus, a thorough appreciation of history will, I think, help us to distinguish changes in degree from changes in kind. It will help us to decide when it is prudent to let the law take its own course, and when it is necessary to rechannel it through a different path.

Second, and finally, we have to remember that continuity and change are embodied in men and women, as well as in laws and in

institutions. The human ingenuity that has given us today's new media of expression and invention should also be able to devise laws adequate to encourage still further progress. Among these human resources are the experts who will be with us today and who will come in future hearings to share their wisdom with us. The Congress must take full advantage of the experience and the insights embodied in its own members.

I think no one will be more crucial to the success of this endeavor than my old friend and longtime colleague, Bob Kastenmeier. Although this is the first hearing in which we have shared the gavel, the fact is that our cooperation, our collaboration—I will avoid going as far as to say our collusion—goes back to our very early days together when we both served on the House Judiciary Committee. His contributions to the development of intellectual property law are unsurpassed. And his continued leadership inspires confidence that our response to the challenges outlined in this report will be fully met.

Mr. Chairman, you have the floor.

OPENING STATEMENT OF HON. ROBERT W. KASTENMEIER, A U.S. REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN, CHAIRMAN, HOUSE SUBCOMMITTEE ON COURTS, CIVIL LIBERTIES, AND THE ADMINISTRATION OF JUSTICE

Mr. KASTENMEIER. Well, I thank Senator Mathias for those very gracious remarks.

This morning we meet; that is, Senator Mathias' subcommittee, more specifically titled the Subcommittee on Patents, Copyrights and Trademarks, and mine called the House Judiciary Subcommittee on Courts, Civil Liberties, and the Administration of Justice, but nonetheless apprising the subject matter indicated by Senator Mathias' subcommittee.

We are here to formally receive an Office of Technology Assessment report, entitled "Intellectual Property Rights in an Age of Electronics and Information," and we will hear first from the OTA Project Director and Advisory Board Chairman, and then from two distinguished commentators.

Some background, I believe, is in order. The two subcommittees, in separate letters sent during the summer of 1983, asked OTA to conduct such a study. OTA's acceptance of the request was followed by a congressional copyright and technology symposium organized by the Copyright Office. And many members of the House and the Senate committees attended that very excellent session, while Senator Mathias and I had also some joint responsibility.

Today we continue our assessment of intellectual property and technological change. We find, of course, as we have known, that there are no easy answers. Congress must satisfy its constitutional mandate of balancing between competing interests ensuring at all times that this Nation's intellectual property laws are primarily for the benefit of the public. The legislative branch should also understand the new technologies, and be cognizant of larger public policy issues affecting communications, privacy, trade, and education.

I would like to quote a brief passage from Prof. Melville Nimmer, who is no longer with us, but whose words will live on. He made such an enormous contribution to copyright, both in an academic and in a very real sense.

He said, I quote:

> The authorization to grant to individual authors the limited monopoly of copyright is predicated on the dual premises that the public benefits from the creative activities of authors and that the copyright monopoly is a necessary condition to the full realization of such creative activities.

Despite the difficulty of balancing and understanding new technologies and their impacts, the subcommittees convened here this morning can assert a constructive legislative record during the past 4 years.

We have created a freestanding sui generis protection for semiconductor chip products.

We not only enacted an intermediate form of patent called statutory invention recording, but also codified other patent law improvements.

We extended the patent term of certain pharmaceuticals that lost part of their life due to regulatory delays.

We passed audio first sale legislation.

Perhaps, more importantly, I do not feel that we have made any mistakes that have violated the integrity of current law. Similarly, we have avoided making, I think, bad bargains on behalf of the public.

One of the lessons that I have retained from the Symposium on Copyright and Technological Change is that "when you're at the cutting edge of technological change, you'd better stay behind the blade." Senator Mathias, Congressman Moorhead who will join us shortly, I think would agree that we have not been cut by that blade.

I want to thank Senator Mathias for his graciousness in nominally permitting me to chair this event. I should note that Senator Mathias has recently been named as the Milton Eisenhower Professor of Public Policy, Johns Hopkins University School of Advanced International Studies. When he retires next year, he will be a very great loss to the Congress and a personal loss to me. But I suspect some consolation can be gleaned, however, by the advantages that will be experienced by the students and the legal profession.

That concludes my remarks.

[Representative Kastenmeier's prepared statement follows:]

PREPARED STATEMENT OF REPRESENTATIVE ROBERT W. KASTENMEIER

This morning, my subcommittee (the Subcommittee on Courts, Civil Liberties and the Administration of Justice) and the Senate subcommittee chaired by Senator Mathias (Subcommittee on Patents, Copyrights and Trademarks) are meeting in joint session to formally receive an Office of Technology Assessment Report entitled "Intellectual Property Rights in an Age of Electronics and Information". We will hear testimony first from the OTA Project Director and Advisory Board Chairman and then from two distinguished commentators.

A bit of background is in order. The two subcommittees, in separate letters sent during the summer of 1983, asked OTA to conduct a study. OTA's acceptance of the request was followed by a Congressional Copyright and Technology Symposium organized by the Copyright Office; many Members of the House and Senate Committees attended that excellent session.

Today, we continue our assessment of intellectual property and technological change. We find -- as I have long thought -- that there are no quick fixes. Congress must satisfy its constitutional mandate of balancing between competing interests, ensuring at all times that this Nation's intellectual property laws are primarily for the benefit of the public. The legislative branch should also understand the new technologies, and should be cognizant of larger public policy issues affecting communications, privacy, trade and education.

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-- We passed audio first sale legislation.

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One of the lessons that I have retained from the Symposium on Copyright and Technological Change is that "when you're at the cutting edge of technological change, you'd better stay behind the blade". Senator Mathias, Congressman Moorhead. I think you would agree that we haven't been cut by the blade!

Now, without further ado, I would like to defer to Chairman Mathias, for an opening statement. I note, for the audience, that Senator Mathias has recently been named as the Milton Eisenhower Professor of Public Policy, Johns Hopkins University School of Advanced International Studies. When he retires next year, he will be a great loss to the Congress. Some consolation can be gleaned, however, by the gain that will be felt by students and the legal profession. Senator?

Mr. KASTENMEIER. Are we ready to call the first panel?

Senator MATHIAS. We are ready, Mr. Chairman.

Mr. KASTENMEIER. Our first panel of witnesses represents the Office of Technology Assessment.

I would like to call forward Ms. Linda Garcia, project director for the report we are discussing this morning.

Ms. Garcia is a 10-year veteran of OTA, presently working in OTA Communications and Information Technology programs. She has been involved in such noncontroversial projects as studies of acid rain, radioactive waste, and transportation. So I am glad the subject of intellectural property and technological change has provided both you and the OTA with some bit of stimulation.

Also appearing is Prof. Paul Goldstein of the Stanford University Law School. Professor Goldstein served as chairman of the OTA Advisory Panel. Three years ago, Professor Goldstein assisted Congress in a similar capacity as a rapporteur for the Congressional Copyright and Technology Symposium, hosted by the Copyright Office in Fort Lauderdale, FL. Several Members of Congress, including Senator Mathias and myself, were the beneficiaries of Paul's teaching expertise at that time. We hope to learn more from him today.

So we yield to you for your statements.

STATEMENTS OF PANEL CONSISTING OF D. LINDA GARCIA, PROJECT DIRECTOR, OFFICE OF TECHNOLOGY ASSESSMENT, WASHINGTON, DC; AND PROF. PAUL GOLDSTEIN, CHAIRMAN, OFFICE OF TECHNOLOGY ASSESSMENT ADVISORY PANEL, AND STELLA W. AND IRA S. LILLICK PROFESSOR OF LAW, STANFORD UNIVERSITY

Ms. GARCIA. Mr. Chairman, Senator Mathias, I am pleased to be here today to present to you the findings of our report, "Intellectual Property Rights in an Age of Electronics and Information."

I would like to take this time to thank you for giving us the opportunity to undertake such an important, intriguing, and highly challenging subject.

Our report is a product of the times. It is a jointly authored work which has benefited from the collaboration, comments, and reviews of over 300 people. These contributors have come from all over the country, and they represent a wide variety of views. Included among them were representatives from affected industries, lawyers, educators, artists, musicians, writers, computer programmers and other creators, scientists and engineers, marketing experts, economists, young people, and academics from many disciplines.

Of course, as a continuing source of advice and guidance, we looked to our advisory panel. We have asked its chairman, Prof. Paul Goldstein, to describe to you his own perspective on the future of the intellectual property system, as well as to comment on the processes by which OTA has arrived at its conclusion.

I would like to submit to you for the record the summary of our report, and simply reiterate here our most important findings.

You may recall that, 3 years ago when we testified before the House subcommittee about technology and the copyright system, we pointed out that the impact of technology on intellectual prop-

erty law can best be understood, not by looking at the law in isolation, but rather by examining the entire range of activities and relationships that the law is intended to govern. It is upon this premise, that intellectual property law structures these activities and relationships, that we have proceeded in our analysis. This approach has proved successful, allowing us to look at how different parts of the system relate to one another and, thus, at the consistency among policy options.

In our study, OTA found, first of all, that the changes being wrought by the new technologies are as far reaching as those brought about by the printing press. Like the printing press, the new technologies are changing the way people work and conduct their businesses; how they interact and relate to one another; the way they learn, create, and process information, and the needs and expectations that they have.

These changes generate a whole range of new social, economic, and cultural opportunities. At the same time, however, they will cause problems for the intellectual property system, undermining many of the mechanisms by which it has successfully operated in the past. Because intellectual property policy, and especially copyright policy, structures the use and flow of information throughout society, how Congress acts to resolve these problems is likely to determine not only which individuals and which groups benefit from these new opportunities, but also in what ways and to what extent we, as a society, might exploit these technologies.

Among the problems that OTA identified were:

One, a problem of defining authorship. Copyright law, based on originality of works and individual authorship, may become too unwieldy to administer when works involve many authors, worldwide collaboration, and dynamically changing materials.

We found also a problem of identifying infringement and enforcing rights. High-speed communications combined with large storage capacity technologies allow vast amounts of copyrighted materials to be traded, reused, and reproduced without the knowledge or permission of right holders.

We found a problem of private use. Although Americans can now easily, inexpensively and privately reproduce and transmit vast quantities of copyrighted works, current law is ambigious about whether this should be allowed.

A problem of functional works. New kinds of intellectual property that use information in a process, such as, for example, computer software, which OTA has called functional works, are obscuring the traditional distinction between patentable inventions and copyrightable writings.

A problem of derivative use. The repackaging of information and the creation of new information products, made possible by new technologies, raise questions about whether the original copyright holder should control all of these new uses.

Intangible works. Electronic distribution of intellectual works may lead to tighter control over public access to information.

The problem of meeting educational goals. Copyright may fail to meet its intended goals because information is increasingly being sold rather than shared, and some of it may become too expensive for educational institutions to obtain.

A problem of integrity. New technologies may be used to misrepresent or distort the work of an artist without the knowledge of the original creator.

And, finally, a problem of international coordination. The globalization of information markets increasingly requires international cooperation in framing intellectual property law and policy.

These problems, I will add, have no simple answers. A solution to one is likely to give rise to another. Moreover, because technology is spawning so many new kinds of intellectual works, a single policy tool, such as copyright law, may be less effective than in the past in meeting policy goals.

Resolving conflicts about intellectual property policy will also, we believe, be more difficult to resolve than in the past, when information-based products and services were peripheral to the performance of many social and economic activities, and when people had lower expectations about their use and the profits that might be derived from them. In such an environment, issues involving the granting of intellectual property rights were easily worked out among the major players without much disagreement or public involvement.

Today, on the other hand, given the variety of opportunities that technologies afford, given the increased value of information, changing relationships among traditional players in the intellectual property system, and given rising expectations, the number of stakeholders with disparate interests and competing claims on the system is greater than ever before. Under these circumstances, the resolution of intellectual property issues will be more problematic, requiring that more viewpoints be taken into account, and that decisions about the distribution of incentives and rewards be made much more explicit.

Because of the far-reaching impact of these technologies, the decisions that Congress makes will affect a broad range of policy areas: communications, trade and international affairs, privacy, antitrust, education, public information, research and development, and tax policy. In making decisions about intellectual property policy, Congress will also need to take into account these new issues, and to assure the coordination among many diverse policy areas.

Moreover, technological change is complicating the intellectual property system, and our understanding of how it now operates is extremely limited. Because we are only beginning to move into the era of electronic information, the full impact of these new technologies will not be totally apparent for some time to come. Fundamental changes are occurring in information technologies that will antiquate many of the policy mechanisms now in force, and bring new problems requiring new solutions. Thus, even if Congress were to act now in response to current problems, it will probably need to be prepared to act again within the next decade.

Given the numerous uncertainties about the intellectual property system and its likely evolution, it is too early, we believe, to make major revisions in the law. However, if Congress hopes to devise a sound intellectual property policy for the future, it must begin now to establish a mechanism to collect and evaluate information about how the system works. Since no Government agency

is presently prepared to undertake such a comprehensive task, some institutional change will most likely be required.

Thank you.

[Ms. Garcia's submissions for the record follow:]

PREPARED STATEMENT OF D. LINDA GARCIA

Mr. Chairman, Senator Mathias, and members of the subcommittees, I am pleased to be here today to present to you the findings of our Report, "Intellectual Property Rights in an Age of Electronics and Information," and I would like to take this time to thank you for giving us the opportunity to undertake the study of such an important, intriguing, and highly challenging subject.

Our report is a product of the times; it is a jointly authored work, which has benefited from the collaboration, comments, and review of over three hundred people. These contributors have come from all over the country, and they represent a wide variety of perspectives. Included among them were representatives from affected industries, lawyers, educators, artists, musicians, writers, computer programmers and other creators, scientists and engineers, marketing experts, economists, young people, and academics from many disciplines.

Of course, as a continuing source of advice and guidance we have looked to our Advisory Panel. We have asked its chairman, Professor Paul Goldstein, to describe to you his own perspective on the future of the intellectual property system, as well as to comment on the process by which OTA has arrived at its conclusion.

By far, the most important contributors to the project have been the members of our project staff - Lauren Ackerman, Earl Dowdy, Rob Kost, and Linda Roberts. I should add, however, that the Report is much more than the sum of each individual's contributions; it is a synthesis of many hours of disucssions and, more often than not, some very lively debates.

The OTA report examines the impact of recent and anticipated advances in communication and information technologies on the intellectual property system. It focuses primarily on the Federal copyright system, and on the continuing effectiveness of copyright law as a policy tool in light of technologies such as audio- and videorecorders, computer programs, electronic databases, and telecommunications networks. To obtain a comprehensive view,

the study examined the intellectual property system from a number of perspectives; the constitutional basis of intellectual property policy; the system's goals, laws, and economics; the creative environment; problems of enforcement; the international context; and the Federal role in administering intellectual property rights.

I would like to submit to you for the record the Summary of our Report and simply reiterate here our most important findings.

You may recall that three years ago, when we testified before the House Subcommittee about technology and the copyright system, we pointed out that the impact of technology on intellectual property law can best be understood, not by looking at the law in isolation, but rather by examining the entire range of activities and relationships that the law is intended to govern. It is upon this premise - that intellectual property law structures a system of activities and relationships - that we have proceeded in our analysis. This approach has proven successful, allowing us to look at how different parts of the system relate to one another and thus at the consistency among policy options.

OTA found, first of all, that the changes being wrought by the new information and communications technologies are as far reaching as those brought about by the printing press. Like the printing press, the new technologies are changing the way people work and conduct their business; how they interact and relate to one another; the way they learn, create, and process information; and the needs and expectations that they have.

These changes generate a whole range of new social, economic, and cultural opportunities; at the same time, however, they will cause problems for the intellectual property system, undermining many of the mechanisms by which it has successfully operated in the past. Because intellectual property policy, and especially copyright policy, structures the use and flow of information in society, how Congress acts to resolve these problems is likely to determine not only which individuals and groups benefit from these new opportunties, but also in what ways and to what extent we, as a society, might exploit these technologies.

Among the problems that OTA has identified are:

- **A problem of defining authorship:** Copyright law, based on originality of works and individual authorship, may become too unwieldy to administer when works involve many authors, worldwide collaboration, and dynamically-changing materials.
- **A problem of identifying infringement and enforcing rights:** High-speed communications combined with large storage capacity technologies allow vast amounts of copyrighted materials to be traded without the knowledge or permission of right holders.
- **A problem of private use:** Although Americans can now easily, inexpensively, and privately reproduce and transmit vast quantities of copyrighted works, current law is ambiguous about whether this should be allowed.
- **A problem of functional works:** New kinds of intellectual property that use information in a process (such as, for example, computer software), which OTA has called functional works, are obscuring the traditional distinction between patentable inventions and copyrightable writings.
- **A problem of derivative use:** The repackaging of information and the creation of new information products, made possible by new technologies, raise questions about whether the original copyright holder should control all of these new uses.
- **Intangible Works:** Electronic distribution of intellectual works may lead to tighter control over public access to information.
- **Educational Goals:** Copyright may fail to meet its intended educational goals because information is increasingly being sold rather than shared, and some of it may become too expensive for educational institutions.
- **A problem of integrity:** New technologies may be used to misrepresent or distort the work of an artist without the knowledge of the original creator.
- **A problem of international coordination:** The globalization of information markets increasingly requires international cooperation in framing intellectual property law and policy.

These problems have no simple answers. A solution to deal with one problem is very likely to give rise to another. Moreover, because technology is spawning so many new kinds of intellectual works, a single policy tool, such as copyright law, may be less effective than in the past in meeting public policy goals.

Resolving conflicts about intellectual property policy will also be more difficult than in the past, when information-based products and services were peripheral to the performance of may social and economic activities, and when people had lower expectations about their use and the profits that might be derived from them. In such an environment, issues involving the granting of intellectual property rights were easily worked out amoung the major players without much disagreement or public involvement.

Today, on the other hand, given the variety of opportunities that the new technologies afford, the increased value of information, changing relations among the traditional participants in the intellectual property system, and rising expectations, the number of stakeholders with disparate interests and competing claims on the system are greater than ever before. Under these circumstances, the resolution of intellectual property issues will be more problematic, requiring that more viewpoints be taken into account, and that decisions about the distribution of incentives and rewards be made much more explicit.

Because of the far reaching impact of new technologies, the decisions that Congress makes about intellectual property policy will affect a broad range of other policy areas: communications, trade and international affairs, privacy, antitrust, education, public information, research and development, and tax policy. In making decisions about intellectual property policy, therefore, Congress will also need to take into account the new issues, and to assure the coordination of policy making among the range of relevant policy areas.

Technological change is, moreover, complicating the intellectual property system, and our understanding of how it now operates is extremely limited. Moreover, because we are only beginning to move into the era of electronic information, the full impact of new technologies will not become totally

apparent for some time. Fundamental changes are occurring in information technologies that will antiquate many of the policy mechanisms now in force, and bring new intellectual property problems requiring new solutions. Thus, even if Congress acts now in response to current problems, it will need to be prepared to act again within the next decade.

Given the numerous uncertainties about the intellectual property system and its likely evolution, it is too early to make major revisions in the law. However, if Congress hopes to devise a sound intellectual property policy for the future, it must begin now to establish a mechanism to collect and evaluate information about how the system works. Since no government agency is presently prepared to undertake such a comprehensive task, some institutional change will, most likely, be required.

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Congress of the United States
OFFICE OF TECHNOLOGY ASSESSMENT
WASHINGTON, DC 20510

July 23, 1986

JOHN H. GIBBONS
DIRECTOR

The Honorable Charles McC. Mathias, Jr.
Chairman
Subcommittee on Patents, Copyrights and
Trademarks
Committee on the Judiciary
United States Senate
Washington, D.C. 20510

Dear Senator Mathias:

Thank you for your letter of April 23 and the complimentary remarks about the OTA assessment on Intellectual Property Rights.

I am pleased to enclose OTA's response to the written questions from you and members of the Subcommittee following the April 16 hearing. If we can be of any further assistance to you, please let me know.

Again, I would like to thank you, on behalf of myself and the entire intellectual property project staff, for the opportunity to participate in such an important study.

Sincerely,

D. Linda Garcia

D. Linda Garcia
Project Director

Enclosure

RESPONSE TO QUESTION ONE

"In these post-Gramm-Rudman days, any suggestion for a new Federal intellectual property agency will probably attract little support. Are there particular compelling reasons why Congress might want to think about creating such an agency? What options for institutional change and improvement do you suggest that are less sweeping than the creation of a new agency?"

OTA has found that there are a number of compelling reasons why Congress might want to undertake major institutional changes in the intellectual property system. As stated in the OTA report, the changes that new technologies are making in the way that information is created, distributed, and used today are as fundamental as the changes made by the printing press. These changes are undermining many of the mechanisms by which the U.S.

intellecual property system has worked in the past, and are causing considerable stress on the intellectual property system. To address these problems will, in many instances, require institutional change.

OTA identified a number of trends that are causing problems for the system:

- the rapidity of, and uncertainty with respect to, changes in information and communications technologies;
- the growing complexity of the system, which creates a need for greater understanding of, and information about, the processes by which intellectual properties are created, published, distributed, and used;
- the growing demand for nontraditional copyright solutions requiring a greater regulatory role for the government;
- the development of new technologies that do not correspond to traditional intellectual property categories, and the creation of sui generis intellectual property protection;
- the increased value of information and hence the potential for greater contentiousness in the resolution of intellectual property disputes;
- the growing convergence of intellectual property issues with international issues;
- the growing convergence of intellectual property issues with other information policy issues.

If these developments continue apace, existing institutions will find it increasingly difficult, if not impossible, to perform their required functions. We have seen recently, for example, how rapidly technology has outpaced the law, and how the courts, responsible for administering that law, have had to ask Congress to clarify or rewrite legislation to take the new technologies into account. We have seen, moreover, that many of the proposed solutions to these problems call for untraditional approaches to intellectual property law, and thus require considerable institutional change. Recent legislation that addresses the enforcement problem, for example, assumes that the Federal Government would play a greater regulatory role even though existing institutions are not geared for it.

Congress has a broad range of institutional choices. At the one extreme is the choice of taking no action, allowing existing institutions to fend as best they can. At the other extreme is the choice of establishing a new intellectual property agency, which would pursue a coordinated approach in dealing with all intellectual property issues. These two options were discussed at some length in the report. The intermediate options are described below.

Intermediate institutional options

An intermediate approach to institutional change might be more politically feasible than the comprehensive approach described by OTA in its report; it would be less costly, and it would allow Congress to address the problems that can be most easily resolved first. To identify the range of intermediate choices, we looked at the functions that, according to our analysis, Federal institutions will be called upon to perform in the future. These functions are: planning, research, and policy analysis; coordination; administration and rule making; regulation; adjudication; dissemination; and international coordination and negotiation. Listed below are some of the institutional changes that Congress might make to assure that these functions are carried out.

Planning, research, and policy analysis

At present all of the existing intellectual property institutions conduct some research on some areas of intellectual property rights. OTA found, however, that the level and comprehensiveness of research is inadequate now. The need for analysis, research, and planning will be much greater in the future. As the OTA study points out, the intellectual property system is becoming much more complicated, and our knowledge of it is falling far behind the changes that are taking place. It is especially difficult to keep abreast of technological developments and the increased diversification of information markets.

Policy options

- Some or all of the existing agencies might be given additional resources to conduct research and planning. The agencies that OTA found most lacking in this regard are the Copyright Royalty Tribunal and the Copyright Office.[7]
- Establish a standing commission to analyze trends and their impact on the intellecual property system. Such a commission might be set up as part of a more general information policy commission, or it might be established solely to deal with intellectual property questions.

Coordination

In its report, OTA found that intellectual property issues are likely to converge in the future with other information policy issues. If agencies are

not to work at cross purposes, or unnecessarily duplicate each other's work, there will have to be greater coordination of efforts.

Currently there are four bodies that serve to coordinate intellectual property issues. They are 1) the Cabinet Council on Commerce and Trade, 2) the Trade Policy Committee, 3) the Senior Interagency Group on Communication and Information Policy, and 4) the Federal Coordinating Council for Science, Engineering, and Technology. OTA found that these groups were ineffective as coordinating bodies because, first, they failed to meet regularly and, second, they were not primarily interested in intellectual property issues. Furthermore, the imminent expansion of intellectual property issues into the realm of communications and antitrust policy may require coordination with institutions that were previously not involved in intellectual property issues -- as, for example, the Federal Communications Commission, the Federal Trade Commission and the Justice Department.

Policy options

- Establish a permanent coordinating body that is comprised of representatives from all agencies responsibile for intellectual property policy. This body would meet regularly. It would have a formal agenda, and a formal mechanism through which to influence policy.
- Increase the visibility of intellectual property issues by creating in each agency that deals with these issues an office for intellectual property rights at the level of assistant secretary. These secretaries would meet regularly to coordinate their efforts.

Administration and rule making

OTA found that existing institutions will experience a much greater administrative burden, given the growth in the number of creators seeking protection for their works and the burgeoning number and variety of works that need to be accommodated under the law. Agencies that presently perform this function are the Copyright Office, the Patent and Trademark Office, and Copyright Royalty Tribunal. The Copyright Office and the Patent Office administer basic laws, register and deposit works, and provide support services. The CRT determines rates and distribution of royalties for several categories of copyrighted works.

Policy Options

- Provide greater resources so that these agencies can keep up with

the increased number and variety of works. This option would deal with the most narrow set of problems defined by OTA.

- Take steps to facilitate the use of collecting societies to perform administrative tasks made necessary by new technology. Collecting societies might be used, for example, to administer the laws for semiconductor chips and computer software. Collecting societies could be encouraged much as they were during the 1976 Copyright Act revision, when Congress promoted the establishment of the Copyright Clearance Center by applauding the idea and by getting the interested parties together.

Regulation

Historically government agencies responsible for intellectual property rights have performed minimal regulatory functions, their role being to register works and to disseminate knowledge to the public. More recently, however, these agencies have been called upon to perform more and more regulatory tasks. OTA's analysis suggests that the demand for regulation will become much more common in the future.

Policy Options

- Provide financial and analytic support to each existing agency.
- Establish one, overall institution, apart from existing ones, to set the rates of royalties and the formulae for their distribution. One advantage of having a single regulatory agency would be that it would bring together a broad range of economic expertise needed to make regulatory decisions. Another would be that, with such an agency, it would be possible to look at how intellectual property laws and policies interact with new technologies.
- Promote the development of collecting societies and delegate to them the regulatory responsibilities currently undertaken by the govenment. These collecting societies might be overseen by the present system of consent decrees, or -- to relieve the burden on the judiciary -- by a new agency established for this purpose.

Adjudication

The courts adjudicate most disputes having to do with intellectual property. The one exception is the Court of Appeals for the Federal Circuit (CAFE), which was recently set up to try patent cases. OTA's analysis suggests several reasons why the courts will find it increasingly difficult to function in this capacity -- the lack of adequate resources, the volume of new litigation and legislation, the lack of technological expertise, and the intensification of intellectual property controversies.

Policy options

- Establish a court, similar to the CAFE, that would adjudicate all copyright or, even more broadly, intellectual property disputes. Members

of the court would be more likely to have the necessary technological expertise and to be capable of interpreting the law in terms of overall intellectual property goals. In addition, this option would greatly relieve the current burden on the judiciary. This court might also oversee the functioning of collecting societies, as described above.

Dissemination

Intellectual property institutions were set up with only indirect responsibilities for disseminating information. The mechanism to encourage dissemination was built into the system of intellectual property rewards. In its analysis, however, OTA points out that with the electronic storage and transmittal of works, dissemination of information may no longer be routinely promoted as it was in the past.

Policy options

- Promote the dissemination of information using policy tools outside of the realm of intellectual property law. The Government might, for example, itself publish or subsidize the publication of intellectual works. In addition, it might increase its support for libraries and other institutions that disseminate intellectual works. The Government might also take steps to foster the electronic storage and dissemination of works, as it has in the case of the Library of Congress Optical Disk Project.

International coordination and negotiation

Historically, U.S. intellectual property policy developed in isolation from the rest of the world. Recently, however, new technological developments have led to increased international creation, distribution, and access to works. This increased internationalization of intellectual works has created the need for greater coordination and negotiation at the international level.

At present, all intellectual property institutions are involved in some aspect of international intellectual property policy. These efforts have not been effective, however, because the representatives of these agencies often act independently and have disparate points of view. Moreover, some international agencies are not well informed about intellectual property issues.

Policy Options

- Establish a standing group of representatives from all agencies that would be responsible for all international intellectual property policy making and negotiation.

- Provide resources to enhance intellectual property/international policy expertise in each agency.

Some Combination of these functions

As noted previously, the OTA report focuses on the option of creating a new Federal intellectual property agency. OTA's emphasis on this option followed logically from the way in which we conceptualized the intellectual property problem; that is, OTA conceived of the intellectual property system as both a whole and in terms of the interrelationship of its parts. From this vantage point, OTA not only identified problems of the entire system, but also in the areas where individual intellectual property problems converge. Thus OTA looked at the legal boundary question as it related to information markets; the question of intellectual property goals as it related to issues of economic growth and private access in an information age; and enforcement issues as they related to international relations. Having identified these linkages, OTA concluded that these issues could be best addressed by dealing with them within a unified institutional context.

There are, however, a variety of forms that such an agency might take, some more comprehensive than others. An agency might be limited, for example, in terms of the kinds of activities (i.e., regulation, adjudication, etc.) that it performs and the degree to which it performs them. Moreover, an agency's responsibilities might be circumscribed at first but later expanded as the need arises or as political support allows. Finally, a new Federal agency might be limited in terms of the number of existing intellectual property agencies that it subsumes.

The establishment of some kind of overall agency is not necessarily in conflict with the spirit of Gramm-Rudman and the current attitudes toward government regulation. The establishment of a centralized agency does not necessarily imply greater financial costs. In fact, consolidating all or some of the activities related to intellectual property might prevent unnecessary duplication of responsibilities within and between agencies, thus actually lowering administrative costs. Moreover, with all issues being dealt with jointly and in the same institutional context, it would be easier to coordinate efforts and to address issues as they cut across one another. Depending upon what kinds of responsibilities are assigned to it, the establishment of such an agency may or may not entail greater regulation.

RESPONSE TO QUESTION TWO

"The study detects a rather sharp conflict between the copyright system and educational needs. Could you explain why you believe that copyright today fails to enhance learning? In your view, what options are open to Congress to reconcile these two goals?"

OTA identified two basic reasons why the copyright system may be less able to serve educational needs in an information age. The first of these has to do with the trend toward the electronic delivery of intellectual works, and the second with the increased value of information in an information age. To reconcile the needs of proprietors with those of educators and the public, we believe that it will be necessary to seek some legislative remedies that are outside of the traditional copyright scheme.

The Trend Toward the Electronic Distribution of Intellectual Works

The needs of educators will be met only if intellectual works are provided at a price that they can afford. OTA's analysis suggests, however, that with the trend toward the electronic distribution of works, the prices that users will have to pay are likely to be much greater than ever before. The logic of OTA's analysis is as follows.

Under the traditional copyright scheme, which was based on print technology, the needs of proprietors and educators could be met simultaneously because authors had to publish and sell copies of their works in order to profit from them. Although the author retained the right to print and publish a work, he no longer controlled copies after the first sale. Once a person bought a copy of a book or magazine, he owned it. It became his personal property. He could consult it repeatedly without additional cost. He could share it, rent it, or resell it without the proprietor's permission. Copyright holders, therefore, did not control the market for their works. Their monopolies were limited. And, since public dissemination went hand-in-hand with profit making, the copyright system promoted both the interests of the author and the goal of learning.

As more and more works are "published" and sold by electronical transmission, the public access to information originally built into the copyright system may be more limited. Because works disseminated electronically need not be sold in hard copies, and because it is questionable

whether individuals can legally copy them, there is only a "first sale" market for these products. Thus copyright holders who publish electronically do not have to compete with resellers, wholesalers, or others who might drive down the price of their products. They can set their own terms, restricting access in order to enhance their profits.

To the extent that copyright holders try to maximize their profits in this fashion, copyright law will no longer serve the educational goals for which it was established under the Constitution. Instead of fostering the dissemination of information and knowledge, copyright law would discourage its distribution. More than ever before, the effects would be spread unevenly across society; for access to information and the benefits that it affords would be based on the ability to pay. Moreover, libraries and other institutions that have traditionally served to provide a low cost alternative source of information may no longer be in a position to play this role. Increasingly they too will be receiving much of their information electronically, and will therefore have fewer hard copies to lend.

The Increased Value of Information

The problems for educators and educational institutions are exacerbated by the fact that, as the market value of information increases, so too does the pressure to treat information activities in economic terms alone. Today, for example, there is a growing number of people engaged in information activities that were once clearly considered to be outside the realm of economics. And, as the OTA report points out, these people are now aggressively competing to economically exploit their works. To assure that they can do so, they are avidly seeking intellectual property rights.

Not surprisingly, such rivalry for ownership is becoming common in institutions of higher education and research, where the potential for profits is high. Here the claims and counterclaims of ownership are continually multiplying; claims of students against students, students against faculty members, and the university against students and faculty. A particularly contentious issue in this regard is work-for-hire. Some university administrators now argue, for example, that, just as companies automatically own the copyright on works done on company time and with company resources, so

too universities should have the rights to everything that is created in conjunction with their facilities.

As the rush to make a profit in information becomes increasingly prevalent, many people are less willing to share their ideas and exchange their views. Some teachers report, for example, that they are unwilling to use computer software that they have developed in their classrooms. Because of its high market value, they fear that their local school district will try to copyright it. Similarly, many people who participate in joint projects, such as electronic conferences, are becoming more hesitant about what they say. Because their ideas now bring a high price, they want to reserve for themselves the right to profit from them.

A healthy learning environment requires the free exchange of ideas and information. However, as the market value of knowledge and information increases, academic ethics are becoming more like the ethics of the marketplace, which often puts a premium on secrecy. In the long run, such changes in academic attitudes and behavior will have a chilling effect on teaching and research in the United States.

Policy Implications

As the OTA analysis points out, the resolution of these issues may not be possible within the traditional copyright scheme and without reference to other information policy areas. Some of the broader strategies that might be pursued are listed below.

Federal actions that might be taken to address problems faced by elementary schools created as a result of new technologies.

- To alleviate the economic burden on public schools, the Congress might increase support for R&D in the creation and sharing of public domain software and other information materials.
- Educational resource centers might be established to help schools share ideas, experience, and materials. Such resource centers could be designed to take advantage of modern communications technologies to create networks for disseminating educational materials in an inexpensive and timely fashion.
- Government might provide tax credits or tax exemptions to the private sector to supply better and more affordable software and information materials to schools. At the same time, the government might provide

guidance in the establishment of sharing arrangements that would allow schools to spread the cost of software and information while allowing proprietors to profit from their products and services.

Federal actions that might be taken to address the problems faced by institutions of higher education as a result of new technologies.

- Reconsideration might be given to work-for-hire policy to take into account the specific situation of higher education. Separate rules for universities might be established.
- Congress might provide support for the establishment of a clearing-house/resource center to collect and disseminate information about intellectual property issues in a university setting.
- Support might be given to the university community to develop clear guidelines for the use of university research. With clear guidelines, the dissemination of fundamental research and knowledge might be encouraged.
- The government could promote the creation and use of data communication networks that would distribute research results rapidly and widely.

Federal action that would address the problems that libraries face in conjunction with new technologies.

- The government might explore the possibilities of using new technologies to enhance public access to information. Support for the Library of Congress' Optical Disk Project is one example of what might be done.
- Efforts might be undertaken to gain a greater understanding of information markets, information uses and users, and changing information needs.
- In the light of the changing information environment, the government might reevaluate what its role should be in collecting, producing, and dissemination information.

Federal action to assure that educational goals are taken into account in the development of intellectual property policy.

As the OTA report points out, in an information age, decisions about the granting of intellectual property rights have become more linked than ever before to other information policy decisions. And, as the preceding

discussion illustrates, this is particularly true in the case of education. However, most of the policy solutions identified above fall outside of the traditional purview of those who routinely deal with intellectual property issues. Thus, to assure that educational goals are met, some institutional change might be necessary allowing for greater coordination among issue areas that have not been previously closely linked.

Mr. KASTENMEIER. Thank you, Ms. Garcia. Pursuant to your earlier request, the summary of your report will be accepted and made a part of the record.

Now we would like to turn to Professor Goldstein.

STATEMENT OF PAUL GOLDSTEIN

Mr. GOLDSTEIN. Thank you, Chairman Kastenmeier, Senator Mathias.

I previously submitted a prepared statement and would like to request that it appear in the record.

Mr. KASTENMEIER. Without objection, that statement will also be accepted and made part of the record.

Mr. GOLDSTEIN. Thank you.

I am delighted to be here today to testify on the OTA report. I agree with much, if not most, of the findings in the OTA report. Perhaps more important for your purposes, I believe that the report represents a careful, well-reasoned appraisal of this difficult terrain. Any disagreements one might have with the report are about points on which reasonable individuals could differ. You are to be congratulated for your wisdom in requesting this study, and OTA and the responsible staff are to be congratulated for the care, diligence, and reflection with which they executed it.

On a personal note, I would like to add my thanks to my colleagues on the Study's Advisory Panel who contributed time, energy, and good cheer well beyond the call of duty.

My main difference with the report is perspective. The report's overarching theme is that present and emerging technologies pose dramatically new challenges for our intellectual property system. By contrast, I believe that the present challenges differ little from the challenges that such technologies as radio, television, motion pictures and, indeed, the printing press have posed in the past. We have been there before. Thus, I believe that history and established principle offer the surest guides to Congress in resolving issues at the intersection between copyright and the new technologies.

To illustrate this point, it may be helpful for me to address the one question that, probably more than any other, bedevils your subcommittees' encounters with the new technologies: Where do we begin? The question has four aspects.

First, what is the appropriate starting point in determining whether to admit new subject matter into copyright? I believe that the appropriate starting point is the embracing language of the

constitutional clause and of the Copyright Act, and the principle that all tangibly fixed subject matter containing some degree of expression is copyrightable.

But this is a starting point only. If, on further analysis, it appears that admitting new subject matter into copyright will create serious distortions in other parts of the law—the administration of infringement rules, for example, or remedies or rights—these overall systemic costs are a red flag that the subject matter is not suited to the copyright system.

As Chairman Kastenmeier and Chief Counsel Remington demonstrate in their recent law review article on the subject, this form of analysis implicitly entered into the decision to craft sui generis protection for semiconductor chips outside the copyright statute.

Second, where do we begin in determining the scope of rights embraced by copyright? The appropriate starting point here is the premise that rights should be extended rather than withheld. The whole history of copyright law points in this direction as does copyright principle, which dictates that all who derive value from the use of copyrighted works should pay for that use, and which relies on market forces and the substitutability of copyrighted works to keep the prices charged for these uses competitive. In a word, history and principle teach us, when looking at the array of rights, to view the copyright cup as half full rather than half empty.

I should quickly add this is also a starting point only. If transaction costs make it impracticable, or if moral claims make it inappropriate, for users to pay for licenses under the new right, then the right should be withheld. For example, at one time, monitoring and negotiation costs made it impracticable to enact a public lending right under which library patrons would pay a royalty each time they borrowed a book. As indicated by the experience in other countries, computer-based systems can today reduce those transaction costs to manageable proportions, thus raising anew the question whether such a right should be extended. But moral claims must also be considered. The great tradition of free public libraries in this country, and the already strapped budgets of public libraries, may well dictate that these uses remain free.

Third, where do we begin in acquiring the information needed to make correct decisions? Particular problems or watersheds may, from to time, dictate the formation of commissions like CONTU or the commission of studies like the present excellent OTA study. To recur to the question of the public lending right, I know that Senator Mathias earlier introduced a bill calling for the creation of a commission to look into that issue. I believe that you will find many insights in the OTA report that will be of great value as you face the difficult task of resolving particular issues.

At the same time, I think it would be mistaken to overlook the most consistent and objective source of information on copyright that we have—the U.S. Copyright Office. I have continually been struck by the depth, balance, and wisdom of the advice that the Copyright Office has given to the Congress. Like OTA, the Copyright Office is an important national resource. I think it would be a serious loss, indeed, if it does not receive the support that it needs to continue its activities at their present very high level.

Fourth, and finally, one point about the international arena. The OTA report amply documents the legal, economic, and technical interdependence of the international copyright community. It seems clear that steps need to be taken internationally to correct the present, uncompensated outflow of our last great national resource—information.

I know that there has been much current activity in this area addressed to new or modified treaty arrangements. But I should add that, as important as treaties are, they can go only part of the way toward resolving the present imbalance. Enforcement of treaty obligations is the key. The problems of enforcement that the OTA report so carefully documents in the domestic arena are multiplied abroad, not only by technical impediments but by the vastly different procedural and administrative mechanisms that are so often used in other countries. We ignore them at our peril.

Thank you.

[Mr. Goldstein's submissions for the record follow:]

Prepared Statement of Paul Goldstein

Chairman Mathias, Chairman Kastenmeier, members of the Subcommittees. My name is Paul Goldstein. I am Stella W. and Ira S. Lillick Professor of Law at Stanford University. I am delighted to be here today to testify on the OTA Report, Intellectual Property Rights in an Age of Electronics and Information.

I agree with much, if not most, of the findings in the OTA Report. Perhaps more important for your purposes, I believe that the Report represents a careful, well-reasoned appraisal of this difficult terrain. Any disagreements one might have with the Report are about points on which reasonable individuals could differ. You are to be congratulated for your wisdom in requesting this study, and OTA and the responsible staff are to be congratulated for the care, diligence and reflection with which they executed it.

My main difference with the Report is in perspective. The Report's overarching theme is that present and emerging technologies pose dramatically new challenges for our intellectual property system. By contrast, I believe that the challenges presented differ little -- certainly not in kind, and only slightly in degree -- from the challenges that such technologies as radio, television, motion pictures, semiconductor chips -- and, indeed, the printing press -- have posed in the past. We have been there before. Thus, I believe that history and established principle offer the surest guides to Congress in resolving issues at the intersection between copyright and the new technologies.

To illustrate this point, it may be helpful for me to address the one question that, probably more than any other, bedevils your subcommittees' encounters with the new technologies: Where do we begin? What is the appropriate starting point in determining whether to admit new subject matter into copyright? What is the

appropriate starting point in determining whether to extend the rights embraced by copyright to presently unregulated activities? What is the appropriate place to start in gathering the objective information and analyses needed to resolve the thornier issues? And where do we start in the international arena?

1. Subject Matter. The appropriate starting point in determining whether new subject matter should be covered by copyright, by some other statute, or not at all, is the embracing language of the constitutional clause and of the Copyright Act, and the principle that all tangibly fixed subject matter containing some degree of expression is copyrightable.

But this is a starting point only. If, on further analysis, it appears that admitting new subject matter into copyright will create serious distortions in other parts of the law -- the administration of infringement rules, for example, or remedies or rights -- these overall systemic costs are a red flag that the subject matter is not suited to the copyright system. As Chairman Kastenmeier and Chief Counsel Remington demonstrate in their recent law review article on the subject, this form of analysis implicitly entered into the decision to craft sui generis protection for semiconductor chips outside the copyright statute. And, if foresight were as good as hindsight, the problems raised by current infringement litigation involving computer software, as well as the problems created by section 117 and by the impact of artificial intelligence developments on determinations of authorship and allocations of ownership, may have indicated the wisdom of similar sui generis protection for software.

2. Rights. The appropriate starting point in determining the scope of rights embraced by copyright is the premise that rights should be extended rather than withheld. The whole history of copyright law points in this direction as does copyright principle, which dictates that all who derive value from the use of

copyrighted works should pay for that use, and which relies on market forces and the substitutability of copyrighted works to keep the prices charged for these uses competitive. In a word, copyright history and principle teach us, when looking at the array of rights, to view the cup as half-full rather than half-empty.

I should quickly add that this is also a starting point only. If transaction costs make it impracticable, or if moral claims make it inappropriate, for users to pay for licenses under the new right, then the right should be withheld. For example, at one time, monitoring and negotiation costs made it impracticable to enact a public lending right under which library patrons would pay a royalty each time they borrowed a book. As indicated by the experience in other countries, computer-based systems can today reduce those transaction costs to manageable proportions, thus raising anew the question whether such a right should be extended. But moral claims must also be considered. The great tradition of free public libraries in this country, and the already strapped budgets of public libraries, may well dictate that these uses remain free.

3. Information. By emphasizing the lessons to be learned from history and principle, I do not mean to understate the difficulty of resolving specific issues. The task will often be very difficult, indeed. The value of history and principle lies in providing a starting point and in enabling your subcommittees to ask the right questions about any given issue.

Who should help you to answer these questions? Particular problems or watersheds may from time to time dictate the formation of commissions like CONTU or the commission of studies like the present, excellent OTA study. To recur to the question of the public lending right, I know that Senator Mathias earlier introduced a bill calling for the creation of a commission to look into the issue. And I believe that you will find many insights in

the OTA Report that will be of great value in resolving particular issues.

At the same time, I think it would be mistaken to overlook the most consistent and objective source of information on copyright that we have -- the United States Copyright Office. I recently had occasion to sample the advice given by the Copyright Office to the Congress over the past quarter century, starting with the 1961 Report of the Register of Copyrights on the pending revision bill. I was consistently struck by the depth, balance and wisdom of this advice. Like OTA, the Copyright Office is an important national resource. I think it would be a serious loss, indeed, if it does not receive the support that it needs to continue its activities at their present, very high level.

4. International. The OTA Report amply documents the legal, economic and technical interdependence of the international copyright community. One domestic implication of this legal interdependence, represented by our adherence to international copyright treaties, is that the minimum standards of protection imposed by these treaties necessarily constrain our freedom to fashion, through copyright, innovative solutions to all of the problems posed by new technologies. At the same time, I should note that I see no serious such constraints on the horizon for pending solutions.

One domestic implication of economic and technical interdependence is that steps need to be taken internationally to correct the present uncompensated outflow of our last great national resource -- information. I know that there has been much current activity in this area addressed to new or modified treaty arrangements. But I should add that, as important as treaties are, they can go only part of the way toward resolving the present imbalance. Enforcement of treaty obligations is the key. The problems of enforcement that the OTA Report so carefully documents

in the domestic arena are multiplied abroad, not only by technical impediments but by the vastly different procedural and administrative mechanisms that are so often used in other countries.

Responses of Paul Goldstein to Written Questions Submitted by Senator Specter

1) One argument which has been advanced repeatedly by manufacturers of equipment capable of copying, reproducing or recording is that they should not be penalized for their capabilities through the imposition of royalty fees, etc., as they aid copyright holders by creating new markets for products.

a) During the course of your study, what evidence have you found regarding this assertion?

RESPONSE OF PROFESSOR GOLDSTEIN:

I have heard this argument repeated many times and, I must say, repetition has not improved its accuracy. The argument has a moral surface and an economic core, both of which are fundamentally flawed.

It may help, to put these flaws in perspective, to look at the issue initially from the viewpoint not of equipment manufacturers, but rather from the viewpoint of their consumers who use their products for reproducing and recording copyrighted works. Few would deny that many of these home and office uses constitute copyright infringement under the present law, and that the only reason these rights are only sporadically enforced is that the costs of enforcement outweigh the royalties to be paid. And few would deny that Congress should make, and the courts would hold, many if not most of the other, presently exempted uses infringements if they were not concerned that transaction costs would disable licenses under these rights.

Thus, as a general matter, in a world without transaction costs, consumers would be required to pay for the copyrighted

works that they copy. That is, of course, not the world in which we live. But, under the fundamental design of the Copyright Act, it is a world toward which Congress and the courts should strive, and it is a world which proposals for royalties on equipment and materials seek, however imperfectly, to achieve.

Now, to return to the perspective of the equipment manufacturers, the economic core of their argument rests on a proposition that, of itself, is hard to dispute: as royalties, or other fees, are added to the price of copying and recording equipment, we can expect the sales of this equipment to decline in response to their higher prices. The fault with this proposition, as the basis for a normative argument that royalties or other fees should not be levied, is that it presupposes that no one -- equipment manufacturer or home or office user -- should pay for the copying of copyrighted works.

Say, though, to return to the initial perspective, that users were required to pay in all these cases, and that copyright owners could effectively organize to collect payments from these users. It seems clear that, in this case, the sales of equipment will similarly decline, because users will now be required to pay for the value of their use. It should be of no great consequence to the consumer whether he or she pays the royalty in the form of a lump sum or continuing royalty to the copyright owner, or in the form of a lump sum paid over to the producer of the equipment. The price would still be paid, and a free ride at the expense of copyright owners avoided.

Thus, in a world in which consumers pay for what they copy, the aggregate price of equipment (price of equipment plus price of copying) should be roughly the same, whether consumers pay for equipment and copying separately, or pay for them together in the form of a single payment to the equipment producer. Systemically, because of the problem of transaction costs, the

second alternative, under which manufacturers effectively act as conduits for royalty payments, is the preferable one.

Although the result is far from perfect -- some people will pay for more than the value of what they use, while others will pay less -- it does produce rough justice. And, in any event, the economic justice of imposing the royalty fee on equipment producers seems impeccable: effectively, they are acting as centralized collecting agents, collecting and paying the same royalties that the consumers would individually pay themselves.

The moral surface of the equipment producers' argument -- that because they aid copyright producers by opening new markets, equipment manufacturers should not be "penalized" -- is also vitally flawed. First, although conceivably the equipment producers are aiding copyright holders by creating new markets for their products, so are copyright owners aiding the sale of equipment by giving it a raison d'etre -- copying copyrighted works out of books, off tapes, and off the air -- that otherwise it would not have. Certainly sales of equipment would be lower if users were not free effectively to make these copies.

Second, and more to the point, countless copyright users who presently pay for their uses could claim exemption on the same ground. Libraries, for example, could claim an expanded exemption from photocopying liability on the ground that they actually increase sales of copyrighted works, not only by buying books and periodicals themselves, but also by exposing users to books and periodicals, thus encouraging them to buy them on their own.

Thus, the argument's specious moral claim should be distinguished from the real moral claims that are honored in the Copyright Act -- the moral claim of libraries, for example, resting on the great tradition of free public libraries in this country, as well as on the specific research and educational

functions served by libraries. Those are truly substantial moral claims and, happily, the copyright law has taken account of them. But the moral claims being made by equipment manufacturers here seem a far cry from this.

2) The Executive Summary of your report points out that in the future, laws based on the concept of originality and authorship may prove to be "too unwieldy to administer." (p. 10)

a) Can you explain this statement in detail?

b) Further, if these concepts are abandoned, or modified, what concepts do you propose as a replacement?

RESPONSE OF PROFESSOR GOLDSTEIN:

First, let me qualify my response to this question by noting that, since I only served on the Advisory Panel to the OTA project, and had no direct role in the drafting of the Report, any characterization I might give to its findings are mine alone and should not be taken to represent the "intent of the framers."

Having said that, my understanding is that the Report was getting at two separate issues in its observation that, in the future, laws based on the traditional concepts of originality and authorship may prove to be "too unwieldy to administer."

First, the concern respecting "originality" is that software developments, and particularly developments in artificial intelligence, may bring us to the point, some day, at which programs are writing programs that are writing programs that are writing novels, painting pictures or composing music. At that point, we must ask the question: Is the resulting novel, painting or musical composition an "original" work entitled to copyright protection?

This is not, to my knowledge, a problem with which copyright law has had to wrestle in the past. But, at the same time, that does not necessarily dictate a legislative response at this

point. First, when and if disputes arise, parties and their lawyers doubtless will uncover analogical bases on which to resolve the issue, and the issue may well be resolved, as so many other perplexing copyright issues have, through the careful methodology of judicial decision. And, for that matter, the dispute may never arise as a practical matter; it may turn out to be a non-problem.

At the same time, the prospect of a problem does exist, and it may be appropriate for Congress to monitor its development, possibly through the Copyright Office. And, since computer software seems to lie so close to the heart of the possible problem, the problem, if it does materialize, may represent an added reason for removing software from copyright entirely, and dealing with it under a sui generis law like the Chip Act.

Second, in speaking of "authorship," the Report's concern seems to be that interactive uses of computers, and networking of computer uses, will make it increasingly difficult to identify who the author of a particular work is.

I think that this second question raises few if any serious problems for traditional copyright principles and certainly does not require that these principles be abandoned. Producers of major, economically important works such as motion pictures, involving writers, editors, directors, producers, have for decades managed to align economic rights within the copyright system, using some mix of contract arrangements and copyright principles of joint authorship. I see no reason why these two sets of tools cannot serve the same function in the new information environment. Indeed, I would expect that the same computer technologies that are perceived as creating this problem will indeed provide a third set of tools -- to trace sources and allocate royalties -- that can be at least as powerful and efficient as the other two, legal tools.

Responses of Paul Goldstein
to Written Questions Submitted by Senator Mathias

Since technological change has created some of the problems confronting the copyright laws, and made many others more acute, how much does Congress need to know about new technology? How can Congress best go about learning what it needs to know about new technology?

RESPONSE OF PROFESSOR GOLDSTEIN:

Although, obviously, I cannot quantify an answer to your first question, I would suggest that, as a matter of emphasis, Congress really needs to know relatively little about the details of new technologies in order to legislate responsibly in this area. Technology does not drive copyright. What drives copyright are the economics of the system and, within a carefully delineated compass, the moral claims of the particularly affected groups -- principally authors and artists and schools and libraries -- that have historically and legitimately pressed moral claims.

This suggests that Congress, in allocating the scarce resource of its attention, would do best to attend to the lessons of economic analysis and to the claims pressed by these particular groups. All I think that Congress needs to know about the new technologies is how as a general matter they affect the behavior of producers and consumers of copyrighted works. There is certainly little need to look beyond the technological information so valuably collected in the OTA Report to get the needed understanding.

At the same time, as I testified earlier, I believe that one of the shortcomings of the OTA Report is its tendency to overemphasize technology. How one asks a question will often dictate what the answer to that question is. I think that, by asking some of its questions from a technological viewpoint, the

Report necessarily produced answers with a largely technological bearing.

But, viewing copyright through the prism of technology will not, in my judgment, produce good policy in the long run or the short run. The correct perspective, as I suggested in my prepared statement, is the prism of history with all of the economic and moral lessons that the history of copyright has to teach. In short, I believe that Congress will do its job best if, in determining whether to admit new subject matter into copyright, it simply asks whether that admission will result in a distortion of the general fabric of the copyright system -- rights and remedies, for example, or rules on infringement.

And, in determining whether to extend rights to existing or new copyright subject matter -- against home videotaping or home audiotaping, for example -- the correct place to start is with the fundamental principle that rights should be extended to cover the uses of all who benefit from a copyrighted work. Only then should Congress ask whether substantiated moral claims -- those of public libraries for example -- or insuperable transaction costs will stand in the way of producers and users reaching agreements respecting licenses under the new right. And Congress should not in this connection ignore such substitutes for negotiated transactions as imposed royalties or other fees, nor should it ignore the capability of technology itself to reduce transaction costs.

Finally, I might add that, in consulting the history of copyright, Congress should not limit itself to the history of copyright in the United States of America. Copyright was not invented in the United States of America. We would do well to consult the experiences with copyright of other countries possessing similar economic and political systems. In many cases other countries have long since resolved questions that we are

now addressing for the first time. Apart from avoiding the wasteful exercise of reinventing the wheel, such comparative inquiries would do as much to integrate our nation into the international copyright community as would adherence to any international copyright convention.

At the April 16, 1986 hearing we discussed the need for continuity and institutional memory. Are those more important resources in this field than they may be in others? Did you give any thought to institutional changes that Congress might undertake to improve its capabilities in the intellectual property field?

RESPONSE OF PROFESSOR GOLDSTEIN:

I believe that continuity and institutional memory are particularly important in the area of copyright policymaking and, indeed, are far more important today than they were ten years ago when the Congress was completing its protracted overhaul of the 1909 Act. Well into this century, the number of groups -- I believe that OTA Report uses the term "stakeholders" -- interested in the copyright system were comparatively few, and it was a relatively -- I underscore the word relatively -- easy matter to get them to sit down and hammer out the necessary compromises.

Since the late 1960s, however, the number of groups interested in and affected by the copyright system have splintered and proliferated to a point at which even getting them to speak together and to tune into the same wavelength has become very difficult, indeed. Thus, although at one time we could rely on the interested parties to perpetuate the institutional memory of copyright, that no longer seems possible. It thus becomes increasingly important for that institutional memory to be lodged in the Congress and in the appropriate governmental agency or agencies -- in this case, the Copyright Office and the Copyright Royalty Tribunal.

Mr. KASTENMEIER. Thank you, Professor Goldstein. Indeed I would like to compliment both of you not only for what you have said here this morning as witnesses but also for your personal contributions and those of your colleagues on the OTA staff and on the Advisory Panel who have contributed to the work that you have produced.

I trust it will receive the serious attention of the legal and creative communities in this country, which are very sizable indeed, for which intellectual property and dissemination of information is so important.

I have a number of questions, but I would like to yield to Senator Mathias.

Senator MATHIAS. Thank you, Mr. Chairman. I have just a few questions.

The Constitution talks about the distinctions between writings and discoveries. The report suggests that this distinction between writings and discoveries may not be as important or useful as it once was. I wonder if you can comment on that?

Ms. GARCIA. I would not want to suggest that it is not as useful but that it is more difficult to ascertain, that technology undermines the ability to determine what are the facts and expressions.

Senator MATHIAS. Could you give us an example of that kind of development?

Ms. GARCIA. Yes, I shall.

We can see it already in the case of works of art, works of facts, and works of functions. We can see it in the area of works of art because the new technologies which process information digitally allow works of art to be reprocessed, manipulated or changed in a dynamic fashion so that they are not fixed in form, making it difficult to be able to protect their expression.

In the case of facts, what we have is protection for a data base. But it is very simple to electronically alter the data just slightly so that it is not really protected. Thus protecting the expression is meaningless in terms of protecting the right. But if you were to protect the facts, you would be going against a basic principle in copyright.

In the case of functional works, you have a choice of giving too little protection by only protecting the code, or too much protection by protecting the process. So what we are suggesting is the need to differentiate between the boundaries in these works given the dynamic nature of the technology.

Senator MATHIAS. One of the issues on which Chairman Kastenmeier and I worked at some length was the problem of semiconductor chip protection.

Would that be an example of coping with this problem, and do you see any significance to what was done in that case?

Ms. GARCIA. It certainly would.

We suggested in our report that there may be a different approach to each kind of work that we have described. We saw that works of art could probably fit very easily in the traditional copyrights system with some adjustments for the problem of integrity.

In the case of works of fact, we suggest that perhaps one might look at uncompetitive practices as a way of dealing with the data bases and the issue of derivatives use.

And in the case of works of function, we in fact suggested that the Semiconductor Chip Act might be a model, although we would generalize it to include a whole range of work, even biotechnology. So we did see that as a good approach and even suggested that it might be generalized to include a whole new class of work.

Senator MATHIAS. In the report you identify pressing problems: enforcement, private use, functional works, and international intellectual property protection.

Why do you pick those particular subjects?

Ms. GARCIA. We did not pick them because we thought they were more important, but because they are more pressing given stakeholders' pressure to do something about them and the fact that the public attitudes are not yet entrenched, and may very well become so over the next few years.

With respect to the international situation, we see different nations are developing their own systems which may be distinct from ours, making the problem of negotiation and harmonization much more difficult later.

That is not to say that these are the most important problems. For some of the problems of derivative use, that is to say of determining how information can be used and reused, may have more significant economic consequences over the next 5 years. It is just that these technologies have not developed to the point where we can identify those kinds of problems at a level at which we could then deal with them.

Senator MATHIAS. Have you assigned in your own mind any order of priority among those four?

Ms. GARCIA. Not really, because our criteria was not how important they were. It was if Congress wants to effect a decision over the direction the technology takes, then it would be better to act now before the new situation became entrenched. And I guess that applies to all of those four categories that we suggested.

Senator MATHIAS. Just one last question.

As you noted in your statement, Professor Goldstein, not all of the conclusions in the report are necessarily your own.

What are the important points, the salient points on which you would disagree, and what are the ones on which you would most heartily agree?

Mr. GOLDSTEIN. The points on which I agree and disagree turn out paradoxically to be the same. And let me put that in——

Senator MATHIAS. That seems to be a metaphysical achievement. [Laughter.]

Mr. GOLDSTEIN. Well, we will see if I can pull it off.

The basic concern I have, and this is, I think, paradoxically, the great strength of the report, is the very high level at which it works, establishing, for example, the distinctions that Dr. Garcia just elaborated, between artistic works, fact works and functional works. I think that kind of deep analysis makes a major contribution to copyright thinking in a academic sense, and, within limits, to copyright policymaking in a very practical sense.

I think it is important when dealing with particular issues to identify the extent to which we are talking about a functional work or a fact work or a work of art.

Just to give an example, the dilemma of the division between writings and discoveries is magnified by the fact that many works are both writings and discoveries. Chips represent one example, computer software another. They fall in both fields. And for the sake of ease, ease of protection, people go the copyright route. Ought we to be concerned, in crafting further amendments to the statute, with the functional nature of the work? That is the kind of high-level thinking. I think it is very useful to have as a guide in decisionmaking.

At the same time—and this is my reservation—the danger I see is that thinking at this high level is not immediately or rationally convertible to practical policymaking. If there was any one thing I would wished to have seen in the report that I did not see, it is a basic, practical strategy for implementing these high level insights in terms of ongoing decisionmaking. For example, I think that to infer from this very nice analytical distinction between artistic works, fact works and functional works, that one can actually divide up the law categorically in those three groups would be a significant mistake. Too many works—textbooks, for example, contain all three elements for a systematic distinction to be possible.

Senator MATHIAS. Mr. Chairman, those are all the questions I have at this time. We have not discussed whether we might have some written questions if that is necessary.

Mr. KASTENMEIER. Well, I would hope that all the witnesses, both Ms. Garcia and Professor Goldstein as well as the two witnesses on the second panel, would be willing to assist our colleagues who could not be here this morning by responding to written questions for the record.

Ms. GARCIA. We would be delighted.

Mr. GOLDSTEIN. I would be delighted.

Senator MATHIAS. I should say at this time that you had a vote at 10 o'clock, and the Senate is scheduled to vote at 11 o'clock, so I may disappear temporarily.

Mr. KASTENMEIER. We will understand.

At least this person will understand. We are very much a part of that process.

Following up on Senator Mathias' question, to put it a bit differently, Professor Goldstein, what in your view is the most provocative conclusion of the report? That is to say, what may be the most significant or arresting conclusion as you look at it.

Mr. GOLDSTEIN. I wish I could answer that. There is nothing that did stick out and grab me by the throat and say this needs to be attended to, this is a startling conclusion.

Now, in part, I take it because, as a member of the panel, the advisory panel, I had the opportunity to watch OTA's thinking over the course of the study. And things that on a first reading would look fresh and provocative to me now just do not.

Mr. KASTENMEIER. Was there an attempt to balance the report so that it would not be, I suppose, too provocative since it is trying to relate to the views of the number of people, to comprehend the views of a number of the panel members and others?

Mr. GOLDSTEIN. Well, I cannot testify to the internal workings of the OTA staff as they were drafting the report.

What I can testify to is the nature of the interchanges between staff and the panel during our several sessions together. And those—to use the word provocative—those meetings were very provocative. The debate was lively, the panel was very well constituted in terms of balance across any number of parameters. And I think that, as a result of the very vigorous discussion and quite open and honest discussion that panel members had with staff members who continually presented to us findings, thoughts, conclusions—that, as a result of that process, I would be surprised if a balanced report did not come out.

Now, whether there was an intention to make political tradeoffs within the report, I just do not know.

Mr. KASTENMEIER. Ms. Garcia, does the report, in your view, treat copyrights more heavily than patents in terms of where possible problem are or may arise in the near future as a result of technological change?

Ms. GARCIA. We ended up with a focus on copyright, although that was not our intent. And our title "Intellectual Property Rights" I think is appropriate because we want to consider all options, not just copyright. And the reason for the focus on copyright is, first of all, that this is where a lot of the activity is. Many people who are seeking protection are seeking it not in patents but in the copyright system. And so the more creative things are going on in the area of copyrights.

When we talk about works of function, we see that as something somewhere in between. To assume this is a copyright problem I think it is wrong, and it would preclude looking, I think, at things like biotechnology within a larger framework.

Mr. KASTENMEIER. Clearly, patent law and copyright law have moved along different paths during our history. As we look at it today in 1986, with some detachment, would it be correct to conclude that experience shows that patent law has been less useful for creators, particularly when there may be a choice between a patent and a copyright.

If there theoretically were a choice that the way patent law and protection has evolved, both as relates to the term of protection and the bundle of rights, that it is so much more difficult than the option of copyright. Copyright is always much more attractive with its longer term and application, the registration process being essentially that much easier. Did you take into account the fact that there might be some conceptual reconstituting—and it may be too late in history to do that—toward a balancing of patents and copyrights as being useful for creators, being more equal in terms of accessibility for creators, than they presently are?

Ms. GARCIA. Let me answer your question this way.

Were I a creator or proprietor, I would seek copyright protection or patent protection, it would be more timely, there would be less uncertainty, and it would seem to offer the best protection.

But I also think if you look at the history of copyrights and patents, you see that the reason it was more difficult to get a patent was because the nature of the protection was inherently greater and, therefore, the qualifications for it were more stringent. I think there was some justice in that, and that would have to be taken into account in trying to balance the qualifications now. Would you

give something up in the process? I would want to ask that question.

Mr. KASTENMEIER. As Senator Mathias mentioned, the sui generis approach of the semiconductor chip legislation is an attempt to avoid some of the difficulties attendant with access to patents, for example, or copyright in the sense that copyright is, in part, either overkill or somewhat irrelevant in terms of what we are attempting to achieve for protection.

Ms. GARCIA. Well, clearly, the inclusion of provisions for reverse engineering was an attempt to balance the whole thing.

Mr. KASTENMEIER. Yes.

One area the report does touch on, and that is suggesting that the Congress might consider establishing a new Federal agency that would administer all aspects of intellectual property law.

In my committee, I think last year, we had the hearing which was devoted to consideration of the Copyright Royalty Tribunal, its function, whether it ought to be altered or changed, replaced or whatever. And there appeared as a witness Daniel Toohey who, in collaboration with Arnold Sutzker, published an "Op-Ed" in the Washington Post, suggesting creation of a new superagency. I do not recall whether it was for all intellectual property or for copyrights. But, in any event, it would subsume, the Copyright Office and the CRT and all these functions, into one great agency, and would also presumably be more active about announcing policy considerations.

Was this allusion in the report consistent with that recommendation, or does it concern something else?

Ms. GARCIA. Well, I will say that when I first read Daniel Toohey's piece in the paper, I thought that someone else is thinking along these lines too. And I would add that, right in front of Paul, I would have assumed that what he would have found provocative in our report was the call for institutional change.

We did not start out with the premise that that was what was needed. What happened was we began to look at the legislation that was being introduced. And we began to ask the question of whether institutions established for a rather minor Government role would be able, would have the capabilities, to perform additional functions to deal with change.

To understand the markets, one of the findings of our economic section is that information was changing very quickly, new players are involved, new media to produce work were involved, and a whole range of new uses are involved. So you are getting a situation which is much more complicated, and about which we know very little.

Information is not like other commodities. So, even theoretical, economics can not give us very much help in understanding what is going on in information markets. And this is at the same time that these markets are producing the fastest growth in the U.S. economy.

Bills were being introduced that called for a tax on tapes. We questioned how such a system might be administered when you have digital transmission of all forms of work, when you can put text graphics, music on the same kinds of system. What kind of in-

stitutional apparatus would you have to have to administer the distribution of royalties.

So we began to see that, as things were evolving, there would be no institutional capability to handle it.

Now, we are not recommending a new institution, but we are recommending that in making decisions about what to do, consideration must be given to institutional implications. Technology is going to continue to change, and as we move to a digital or electronic delivery system from the home connected to large network systems, the way in which we deal with distributing or determining rights in the marketplace may no longer function. And if that is true, some other institutional approval may be needed.

Mr. KASTENMEIER. In other words, you are saying that Congress needs an institutional commentator that sits above these various organizations in terms of its ability to monitor and to comprehend what may be necessary. And I would invite Professor Goldstein's comment because I remember he just said that really we do not use the Copyright Office enough, and today the Copyright Office provides some of that information.

Mr. GOLDSTEIN. Well, I certainly recall testifying before you in the hearings on the CRT and characterizing Mr. Toohey's proposal as wrongheaded. I have not learned anything since that time to make me change my mind. I think it makes no sense at all to create such an institution.

The reason I did not view that as a particularly provocative or disturbing or scary part of the report is that I saw it proposed as a sufficiently tentative item, and that it was insufficiently fleshed out. If, in fact, there was more flesh there than I perceived, perhaps I had better go back and study it some more.

I think that it is dangerous to intrude new Government agencies into what is essentially a system that depends on market processes. Hence, yet another agency is a bad idea.

The two Government organizations we presently have, the Copyright Office and the CRT, seem to me more than adequately to cover all of the concerns I can see on the horizon. The CRT is not an organization whose concept I am crazy about, but technology has effectively dictated its creation to collect and distribute the royalties generated under laws addressing the new technologies, and I think that on the whole, the CRT has done a good job, indeed.

I think, for an informational function, the Copyright Office is just as good as we are going to get, and it is awfully good.

Mr. KASTENMEIER. Let me ask you, with respect to copyright as a constantly evolving system; should we or are we moving toward two separate systems: a traditional system for writings and authors, and an industrial system for organizations that own and promote what may be protectable but are not, in any sense the word, a "writing" or a traditional copyright item? Are we moving in two directions, and should we?

Professor Goldstein, let me ask you that.

Mr. GOLDSTEIN. You have put your finger on a point that I have been reflecting on the last few weeks. Rereading C.P. Snow's "Two Cultures," it occurred to me that we are coming into a world of two cultures of copyright in which there is the traditional culture, of

art, literature, music, and a newer culture of industrial technology. Computer software is the major symbol of that culture. Semiconductor chips would have been another, but for being separated into a sui generis law.

I think academically it is interesting to observe that development. And I think, also, as a practical matter, it is very important to attend to it.

For example, we have admitted computer programs into copyright because they contain protectable expression. If the courts do not do the right job—and there is some indication that they are not doing it right—in administering the appropriate infringement standards, and if they allow copyright to protect function as well as expression, that might be a time for a second look at copyrightability of computer software. That may be the kind of instance of distortion of other parts of the law that directed you away from copyright and toward sui generis legislation for semiconductor chips.

Mr. KASTENMEIER. Ms. Garcia, do you have a comment?

Ms. GARCIA. Yes, sir. I would like to comment.

I think our distinction between works of art, works of fact, and works of function in a sense support the idea of a different kind of approach for different kind of works. As I suggested before, works of art probably can be treated in a traditional copyright system. But we suggested something like misappropriation laws to deal with work of facts, and similar kinds of changes for works function.

We also found that even incentives might be different—the incentive to be offered to a creator might differ depending on the value attached to the creative work in society. And that also would fit along the three different lines we suggested.

Mr. KASTENMEIER. Thank you.

I suppose there are other questions which suggest themselves, but I think we will attempt to formalize those questions to you in written form.

On behalf of Senator Mathias and myself, I wish to thank you both most profoundly for your contribution here this morning and also for the work that you have presented, Professor Goldstein and Ms. Garcia.

Mr. GOLDSTEIN. Thank you, Mr. Chairman.

Mr. KASTENMEIER. The second panel of witnesses will provide commentary on the OTA report. We are happy to have, in addition to Senator Specter who has joined us, two valuable members of the Advisory Committee with us.

First of all, I would like to welcome the Honorable Stephen Breyer, circuit judge, U.S. Court of Appeals for the First Circuit. Judge Breyer is no stranger to these Senate surroundings. He served as general counsel to the Senate Judiciary Committee under Chairman Kennedy's tenure during the late seventies. Many people know that Judge Breyer is an expert on criminal and administrative law. Some individuals forget, however, that he wrote his tenure piece for the Harvard University Law School on copyright law.

Second, we see another familiar face at the witness table, Jon Baumgarten. He is a practicing lawyer in Washington, DC, with the law firm of Proskauer Rose Goetz & Mendelsohn. Mr. Baumgarten was general counsel of the Copyright Office from 1976 to

1979, a very important period. He is one of this Nation's most respected experts on copyright law. He has been of substantial assistance to the House and Senate Judiciary Committees during the past decade.

Gentlemen, I will ask Mr. Baumgarten to go first, and Judge Breyer to follow in summarizing their statements.

STATEMENT OF HON. ARLEN SPECTER, A U.S. SENATOR FROM THE STATE OF PENNSYLVANIA

Senator SPECTER. Mr. Chairman, if I might say just a word.

I note that on our Senate clock, we have a live quorum call preliminary to a cloture vote so I am not going to be able to stay, but I do want to leave some questions for the record.

Mr. KASTENMEIER. Of course.

Senator SPECTER. Thank you.

Mr. KASTENMEIER. Do you have any other comments you would like to make?

Senator SPECTER. No. Simply to say that it is a very important hearing, very important issues, and I will be studying very closely and reviewing the testimony presented.

Mr. KASTENMEIER. Thank you, Senator.

Jon.

STATEMENTS OF PANEL CONSISTING OF JON BAUMGARTEN, ESQ., LAW FIRM OF PROSKAUER ROSE GOETZ & MENDELSOHN, WASHINGTON, DC; AND HON. STEPHEN BREYER, CIRCUIT JUDGE, FIRST CIRCUIT COURT OF APPEALS, BOSTON, MA

Mr. BAUMGARTEN. Thank you, Mr. Chairman.

I would like to summarize my statement and request that the full statement be included in the printed record of the hearing.

Mr. KASTENMEIER. Without objection, your statement and that of Judge Breyer will appear in their entirety in the record, and you may proceed as you wish.

Mr. BAUMGARTEN. By way of introduction, Mr. Chairman, I can assure you that few in the copyright community have forgotten Judge Breyer's tenure piece. Some of us had hoped others would forget it, but none of us have forgotten it.

Mr. Chairman, the subject of copyright and new technology, to which the OTA report is in large part addressed, has long been a favorite topic of discussion in the literature of intellectual property, one whose currency long antedates the age of the computer and the advent of the so-called postindustrial society. In 1945, for example, Prof. Zachariah Chaffee, contemplating such then astounding technologies as radio and motion pictures, published his famous characterization of copyright as the "Cinderella of the Law," bursting forth from her dark chimney corner, suddenly endowed with mechanical and electrical devices as magical as the pumpkin coach and mice footmen. But the relationship between copyright and emerging technology goes back much further. Indeed, there is little doubt that the basic concepts of contemporary copyright can be traced to the very invention of movable type, no less a revolutionary development in its time than the wizardry of today's computers.

In short, concern over the relationship between copyright, innovative devices, and the public good is hardly new. What we now see, however, is an accelerated pace of technological development, a redirection of society's demands toward information rather than hard goods, and new forms of impact on the possible uses—most importantly, possible unauthorized uses—of copyrighted works.

The cumulative impact of these factors is most significant. It is most deserving of the Congress' sensitive attention because, at bottom, the principles of copyright have been a vital force in this country's heritage of intellectual freedom, cultural abundance, and industrial growth.

In my view at least, maintenance of these basic principles is an essential part of ensuring our continued commitment to both the ideals of a free society and the goals of scientific progress. This theme—the fact that copyright, technological growth, and social freedom concur—rather than what Barbara Ringer once referred to as a "demonic view" of these elements as opposing forces—has been more eloquently expressed by others than I can hope to do today. By Barbara Ringer herself, by David Ladd, and by others. But, for the moment, I will depart from the position of an advocate for this view of the future and merely note its historical validity.

The important point that we have to acknowledge today, one touched upon by the prior witnesses, is that of appreciation for Congress' insistence on understanding for the future; on going beyond the isolated political realm of particular disputes; on providing a firm, educated foothold for future legislative considerations. This is a task, Mr. Chairman, that you once characterized as designed to "ensure that intellectual property law, particularly copyright law, can be a little wiser, a little more comprehending in responding to technological challenges," and that Chairman Mathias has similarly characterized as directed toward the goal that the evolution of copyright "take place in an orderly way without crushing the creative spirit."

The OTA Assessment of Intellectual Property in an Age of Electronics and Information is not the first step in this direction. There were others that you mentioned in your introductory comments. But in the depth of its charge and the energy of its authors, the OTA study is clearly one of considerable importance.

I would be somewhat disingenious, however, if I failed to reflect one potential danger that is seen by some, and I will not exclude myself, in this endeavor. This is a concern that, in its search for understanding, the Congress may inadvertently delay action in cases that call for expeditious, if not ultimately permanent, action. I do think, however, that there is clear and welcome evidence of Congress' willingness and ability to act in a prompt, measured fashion to resolve appropriate issues.

One example I would note, and it has been commented upon earlier, is the development and passage of the Semiconductor Chip Protection Act of 1984. The record rental amendments of that year are another example. My hope is that the prompt exploration and adoption of innovative solutions to assure the maintenance of the historical principles of intellectual property will be demonstrated in other areas as well.

I would also like to say a word about the authors of the report. I have not read the final document in detail, and I do not intend this testimony to serve as a critique of any sort. To do so, based upon my relatively cursory examination of the report, recollection of prior draft chapters, the debates of the Advisory Board meetings and the like would be a disservice to the very process. I think it should be applauded.

I have no doubt that I will find myself in disagreement with particular comments in the report. I have no doubt that I will be in agreement with others. But I want to clearly acknowledge what I found to be an extraordinary commitment of energy and responsiveness among the OTA staff. They probed, they listened, and their views did not ever appear immutable. In short, Mr. Chairman, they appear to have taken forward your committees' charge in the sense and for the purpose it was given. I would also join the chairman in commending Professor Goldstein's adroit and knowledgeable chairmanship of the Advisory Panel.

Turning from the purpose and process of the report, I would note certain portions, however, that have initially raised some question in my mind, with all the appropriate disclaimers appropriate to a very quick review of a very detailed document.

First, at several points, the report appears to suggest that the new technologies may call for a substitute for intellectual property as a mechanism for the goal of nurturing and enhancing creativity. As suggested at the beginning of my testimony, to the extent this accurately reflects the tenor or intent of the report, I cannot accept it. The fundamental principle of economic incentive that underlies the copyright system works. It has proven itself. To quote an appropriate passage from the Declaration of Mission and Principles of the American Copyright Council:

> The challenges of new technologies is not a gauntlet to be thrown at proven principles, but a call to the exploration of innovative approach to new issues, directed at preserving traditional and cherished values.

The report's related suggestion, at one point, that a system of subsidies "would have few negative consequences for learning and the creative environment," is not unprecedented, recalling a certain tenure piece. However, I find it neither accurate nor palatable. Any system of subsidies as an alternative to copyright implies control; it would undoubtedly lead to the intervention of official authority in the process of selection, creation, and publication.

Second, it is not clear to me at this preliminary stage that the report sufficiently acknowledges an equally fundamental principle of copyright law—the elemental dignity of works of the intellect, and the elemental fairness of compensation for one's investment of time and effort in creations of the mind. I have little doubt that my reservations on this point will immediately call forth debate over the intended principal class of beneficiary of the intellectual property system—whether it is authors or the public—and related debate whether copyright is more a matter of congressional grant than one of natural justice.

In my own view, such debate itself is rather artificial at best. As clearly expressed in the Constitution, copyright legislation is prem-

ised on the belief that equitable treatment of creators and societal benefits are once and at the same time wholly complementary.

The report does properly assess the question of "private use" of copyrighted works as one of the most fundamental issues to be addressed. There can be no question but that the unauthorized use of copyrighted works in private and semiprivate contexts, where detection is difficult at best, and enforcement poses both practical problems and policy issues of privacy, is a very significantly troubling byproduct of the newer technologies.

I would hope, however, that the rubric of private use is not misleading. As the report does seem to acknowledge, there is little difference, if any, in impact upon the copyright owner, and ultimately on the public, between the unauthorized reproduction and distribution of thousands of copies of a copyrighted work by a single source, and the aggregate reproduction of the same numbers of copies by separate individuals for their own use. However, there appears to be some hint in the report, and in Ms. Garcia's testimony, that private use has some special historical claim to privilege or, in Linda's words, that the law is ambiguous. I do not share this view, and I would recall that in the *Betamax* case—what could have been the leading judicial test of private use—the majority did not enunciate any doctrine of privileged private use. The court simply applied or misapplied, depending upon your view, the conventional criteria of fair use. The notion that private use is something apart, something special, something privileged, is not supported by that case or any other pertinent authority that I am aware of. But even if there were antecedents, it must be recognized that they have no relevance whatsoever to so-called private use as it occurs in the contemporary scene of copyright.

There have been several references during prior testimony to the report's so-called trichotomy among works of art, of fact, and of function, and the implicit suggestion that copyright cannot deal adequately with each species. I am uncomfortable with this suggestion. I believe that the copyright laws have always recognized differences among works of art, fact and function, and have demonstrated an ability to deal with them, as by the judiciary's drawing of distinct scopes of protection for each appropriate work.

Finally, I would like to express one word of caution to the committees as they approach a more detailed examination of the report.

The final document does appear to have avoided succumbing to a tendency that did trouble me in the early stages of the Advisory Panel proceedings. The tendency is so common in debate over copyright and new technology that I think it bears comment even if OTA did avoid it. I would describe it as a tendency to "overtechnologize" the entire matter.

Contrary to the impression that some—many, in fact—information technocrats would like to convey, the new world of information technology is simply not one of bits, bytes, and pixels that have somehow been born in some new, big-bang theory of intellectual creation and are floating around in the atmosphere until captured by the magical machine and delivered in some magical fashion to some public. Intellectual creativity, in the broad sense—encompassing both original authors as well as producers' and publish-

ers' coordination, packaging and rational distribution—remains the domain of human actors. Respect for their efforts, labors, investment, and assurance that they will continue, is the historical role of our intellectual property laws. The new technologies may well call for new ways to ensure that copyright continues to serve this function, but the humanity of the creative process must not be lost in awe of the devices.

Mr. Chairman, thank you for the opportunity to present these views.

[Mr. Baumgarten's submissions for the record follow:]

PREPARED STATEMENT OF JON A. BAUMGARTEN

I am Jon Baumgarten. I am a member of the law firm of Proskauer Rose Goetz & Mendelsohn, and for most of my professional career have been deeply involved in proprietary rights matters in general, and copyright law in particular. During the period from January 1976 through May 1979, I had the honor of serving as General Counsel of the United States Copyright Office and, in that capacity, the great pleasure of working closely with former Register of Copyrights Barbara Ringer, and the privilege of advising members and staff of the House and Senate copyright subcommittees in connection with the development, enactment, and implementation of the Omnibus Copyright Revision Act of 1976. During the past two years I was fortunate to participate, in an advisory role, as a member of the Board of Advisors to the pertinent Office of Technology Assessment staff in the preparation of the Report on Intellectual Property Rights in an Age of Electronics and Information that you are receiving today. I am grateful for the opportunity to appear before you on this occasion.

The subject of "copyright and new technology," to which the OTA Report is in large part addressed, has long been a favorite topic of discussion in the literature of intellectual property -- and its currency long antedates the age of the computer and advent of the so-called post-industrial society. In 1945, as only one example, Professor Chaffee -- contemplating such then-astounding technologies as motion pictures and radio -- published his famous characterization of copyright as "the Cinderella of the law," suddenly brought forth from her dark chimney corner endowed "with mechanical and electrical devices as magical as the pumpkin coach and mice footmen." But the relationship between copyright and emerging technology goes back much further; indeed, there is little doubt that the basic concepts of contemporary copyright can be traced to the very invention of movable type, no less a revolutionary development in its time than the wizardry of today's computers.

In short, concern over the relationship between copyright, innovative devices, and the public good to which the former is

addressed and the latter promised is hardly new. What we now see, however, is an accelerated pace of technological development, a redirection of society's demands, and new forms of impact on the possible uses (particularly unauthorized uses) of copyrighted works. The cumulative impact of these factors is most significant and is deserving of the Congress' most sensitive attention. At bottom, the principles of copyright law have been a vital force in this country's heritage of intellectual freedom, cultural abundance and industrial growth. In the view of this commentator at least, maintenance of those principles (albeit with appropriate changes in relative detail) is an essential part of ensuring our commitment to democratic ideals and scientific progress. This theme -- the concurrence of copyright, technological growth, and social freedom (rather than what Barbara Ringer once referred to as a "demonic" view of these elements as opposing forces) -- has been more eloquently expressed by others than I can hope to do today, or even with more time. But for the moment, at least, I will depart from the role of an advocate for this view of the future and simply note its historical validity.

The important point that must be acknowledged in this hearing, by all touched by copyright law, is one of appreciation for the Congress' insistence on understanding for the future, on going beyond the isolated political realm of particular disputes, on avoiding the frustrating sense of being trapped in what Congressman Glickman has been quoted as referring to as "a technological snake pit," and on providing a firm, educated foothold for future legislative considerations -- a task characterized by Chairman Kastenmeier as designed to ensure that "intellectual property law, particularly copyright law, can be a little wiser, a little more comprehending, in responding to technological challenges," and by Chairman Mathias as one directed toward a goal that the evolution of copyright "take place in an orderly way, without crushing the creative spirit." The OTA assessment of Intellectual Property in an Age of Electronics and Information is not the first step in this direction. (It was preceded, for example, by the House Subcommittee's 1983 hearings on Copyright and Technological Change, and by the 1984 Congressional Copyright and Technology

Symposium in Fort Lauderdale.) But in the depth of its charge and the energy of its authors it is clearly one of considerable importance toward enlightened legislation.

I would be somewhat disingenuous, however, if I failed to reflect a potential danger that is seen by some (and I will not exclude myself entirely) in this endeavor -- a concern that, in its search for understanding, the Congress may inadvertently delay action in cases that call for expeditious, if not ultimately permanent, action. I do think, however, that there is also clear evidence of Congress' willingness and ability to act in prompt, measured fashion to resolve appropriate issues. One example I would particularly note is the development and passage of the Semiconductor Chip Protection Act of 1984 (the record rental amendments of 1984 are another example); my hope is that the prompt exploration and adoption of innovative solutions to assure the maintenance of historical principles of intellectual property will be demonstrated in other areas as well.*

I would also like to say a word about the authors of the Report. I have not read the final document in detail; and I do not intend this testimony to serve as a critique, analysis, rebuttal, or brief of any sort. To do so, based upon my relatively cursory examination of the Report or recollection of prior draft chapters, underlying papers, or Advisory Board meetings, would be a disservice to the very process I do wish to applaud. I am certain that I will find myself in disagreement with particular comments in the Report, but I want to clearly acknowledge what I found to be an extraordinary commitment of energy and responsiveness among the OTA staff. They probed, they listened, and their views did not appear immutable; in short, they appear to have taken forward the Committees' charge in the sense, and for the purpose, it was given. I would also commend Prof. Goldstein's adroit and knowledgeable chairmanship.

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* The SCPA is innovative in many respects, in both its domestic and international provisions. In acknowledging Congress' initiative in this particular area, however, I do not mean to suggest agreement with those who urge it as conclusive precedent for "sui generis" treatment of other works now covered by copyright. The important point here is the initiative itself; not its form.

Turning from the purpose and process of the Report, and most emphatically subject to all the disclaimers appropriate to a very brief review of what appears to be a very thorough document, I would note certain portions of the Report that have initially raised some question in my mind:

- At one or two points, the Report appears to suggest that the new technologies of creating, storing, and disseminating information may call for a substitute for intellectual property law as a mechanism for the goal of nurturing and enhancing creativity. As suggested at the beginning of my testimony, to the extent this accurately reflects the tenor or intent of the Report, I cannot accept it. The fundamental principle of economic incentive that underlies our copyright system works; it has proven itself in the vitality and richness of our creative environment. To quote an appropriate passage from the Declaration of Mission and Principles of the American Copyright Council: "The 'challenge' of new technologies is not a gauntlet to be thrown at proved principles; it is a call to the exploration of innovative approaches to new issues, directed at preserving traditional and cherished values." The Report's related suggestion, at one point, that a system of subsidies "would have few negative consequences for learning and the creative environment," although not unprecedented, is neither accurate nor palatable. Such a system, as an alternative to copyright, would undoubtedly lead to the intervention of institutional or official authority in the process of creation, selection, and publication.

- It is not clear to me, at this preliminary point, that the Report sufficiently acknowledges an equally fundamental principle of copyright law --the dignity of works of the intellect and the elemental fairness of compensation for one's investment of time and effort in creations of the mind. I have little doubt that my reservations on this point will call forth debate over the intended "principal" beneficiaries of the intellectual property system; whether copyright is a mere matter of Congressional grant or partakes of underlying notions of natural justice. But, in my view, such debate is itself rather artificial. As clearly expressed at some portions of the Report, the Constitutional authorization

for copyright legislation is premised on the belief that equitable treatment of creators and societal benefits are wholly complementary.

• The Report properly assesses the question of "private use" of copyrighted works as one of the fundamental issues to be addressed in any consideration of copyright and new technology. There can be no question but that the unauthorized use of copyrighted works in private and semiprivate contexts, where detection is difficult at best and enforcement poses both practical and policy issues, is a significantly troubling byproduct of the newer electronic technologies. I would hope, however, that the rubric of "private use" is not misleading. As the Report appears to acknowledge, there is little difference in impact upon the copyright owner, and ultimately on the public, between the unauthorized reproduction and distribution of thousands of copies of a copyrighted work by a single source, and the aggregate reproduction of the same numbers of copies by separate individuals for their own use. There appears to be some hint in the Report that "private use" has a historical claim to privilege. I do not share this view; but even if it were true, it simply has no meaningful relevance to the contemporary scene. The test for the Congress will be to find new solutions to accommodate the pertinent interests -- not to be misled by labels or claims to historical privilege that are wholly inaccurate or inapposite.

• One theme of the Report appears to be a trichotomy among works of "art," of "fact," and of "function," and the suggestion that copyright cannot deal adequately with each species. I believe that the copyright laws have demonstrated an ability to encompass works of each type, and that the drawing of appropriate balances (for example, in the scope of protection accorded) is well within the competence of the courts in particular cases. The fact that categories can be drawn does not mean they must be enshrined.

Finally, I would like to express one word of caution to the Committees as they approach a more detailed examination of the OTA Report. The final document does appear to have avoided succumbing to a tendency that frequently troubled me in the early

stages of the Advisory Panel deliberations. This is a tendency to "over-technologize" the pertinent issues, a common enough penchant in debate over copyright law and technology to note here, even if the OTA has avoided it. Contrary to an impression some information technocrats would, however inadvertently, convey, the world of the new information technolgies is not one of bits, bytes, and pixels that have been born in some new Big Bang theory of intellectual creation and that float in some netherworld until captured, packaged and delivered in some magical machine fashion to a relevant public. Intellectual creativity (in the broad sense, including original authorship, as well as coordination, packaging, and rational distribution of copyrighted works) remains the domain of human actors (including individual authors, publishers, producers and other entrepreneurs). Respect for their efforts, labors and investment, and assurance that they will continue is the historical role of our intellectual property laws. The "new technologies" may well call for new ways to ensure that copyright continues to serve this function; but the humanity of the process must not be lost in awe of the devices.

Thank you for the opportunity to present these views, and the staff of the OTA for their courtesy and commitment.

* * *

WRITTEN QUESTIONS OF SENATOR SPECTER FOR MR. BAUMGARTEN

The Executive Summary notes that with the development of computer software and other functional works, the clear distinction between inventions and writings is beginning to break down.

a) What are your respective views on this problem, and how would you suggest dealing with it?

b) Do you believe it will be necessary to rewrite the existing distinctions between invention and authorship, and patents and copyrights protection?

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May 30, 1986

Steve Metalitz, Esq.
Staff Director
Subcommittee on Patents, Copyrights
and Trademarks
137 Dirksen Office Building
Washington, D.C. 20510

Re: OTA Hearing

Dear Steve:

This is in response to the written question of Senator Specter submitted to the undersigned in connection with the captioned hearing.

I do not share the OTA's conclusion that "the clear distinction between inventions and writings is beginning to break down." The concept of "writings" as the subject matter predicate for copyright protection has long been expansively interpreted -- and I would submit that this broad interpretation has been beneficial in providing the benefits and incentives of the copyright system to diverse works of intellectual creativity. (To the extent that this includes works that may also fall within the ambit of patent protection for "inventions," it must be recalled that copyright and patent principles protect different aspects, based upon entirely different criteria, and against fundamentally different uses.)

The copyright category of "writings" has traditionally included works of "functional" application (e.g., instructional manuals and descriptions of all types, from highly technical specifications having little conceptual distinction from software, to cook books) and related works (e.g., "fact works," including histories, biographies, and the like). Under the guidance of fundamental principles of copyright law,* our courts have shown themselves well suited to adjust the scope of copyright protection in particular cases to accommodate such works within the broader categories of copyrightable subject matter.**

I am far from persuaded that the emerging issues of computer-related copyright cannot, or will not, be dealt with with equal facility by our courts. Thus, at the very least, I consider it premature to rush to judgment as to the "breakdown" of a proven system or the need to "rewrite" working principles.

Very truly yours,

Jon A. Baumgarten

*E.g., 17 U.S.C. 102(b) (no copyright protection of "idea[s], procedure[s], process[es], system[s], method[s] of operation, concept[s], principle[s], or discover[ies]"); Baker v. Selden, 101 U.S. 99 (1879) (same) (prior law).

**E.g., Hoehling v. Universal City Studios, 618 F. 2d 972 (2d Cir. 1980); Landsberg v. Scrabble Crossword Game Players, 736 F. 2d 485 (9th Cir. 1984).

Mr. KASTENMEIER. Thank you, Mr. Baumgarten, for an enlightening comment.

Now I call on Judge Breyer.

STATEMENT OF HON. STEPHEN BREYER

Judge BREYER. All right. I will just summarize. My paper is fairly short.

It is true, I thought this was a pretty good report and, in particular, if you have been to some of our last meetings. They performed—the staff—something of a miracle pulling this together and producing this report in a short time. And what I like about it, it does recognize the producer's need in certain areas for additional protection.

But the things that I would emphasize are, it obviously focuses as well on the need of the consumer, the reader, the user, the student, for widespread and easy dissemination of material. That sometimes is a conflicting view.

Then it focuses on the need to tailor solutions to particular industrial problems. I think that is a good thing. And if I summarize the whole thing, I think I would say it sounds and sort of flashes the yellow light of caution before widespread new protections are introduced and become law. And I think that yellow light is appropriate—not red, not green, but yellow. I think that is appropriate.

But I will tell you in a few minutes, which is all I really have, I think I would like to put in your mind—and you actually have most of these in mind, Congressman, because you did enact this semiconductor chip bill, which suggests to me that you are trying to balance these producers' interests with the consumers' interests, and to tailor a protection to a particular need.

So I am not certain of the extent to which I need to put it in your mind. And I thought Mr. Baumgarten actually thinks you came up with an appropriate solution as well. That is just me.

But I will go through what I call five points—or, let us say, five images—that I think ought to be in people's minds when they try to perform this appropriate balancing act. And that is why I have tried to list in the text. What are the five images I would like in people's minds?

Well, the first image I would like in their mind is what I call the fact that there are two views of copyright. I oversimplify a little bit. There is no way to create an image and not oversimplify.

The first view I call the moral view; the second view I call the economic view. If you think, well, what is the moral view, I would say, well, think back to the old King Diarmed—King Diarmed who was supposed to begin in Iona, I think, who said: "To every cow its calf." All right. That is a moral view. We have a right to that, a right for every good that flows from my creation or your creation.

But I contrast "To every cow its calf," which I call the economic view, which I think is well expressed in Macaulay's statement to the British Parliament, I think sometime in the middle of the 19th century, where he said basically what copyright is: It is "a tax on readers for the purpose of giving a bounty to authors." And the only reason that we put up with this is in order to elicit produc-

tion. But we do not want 1 more day's protection than is necessary to elicit that production.

If I was saying what I would like you to read, I would like you to read my article; but if I had to choose honestly, I would say it is better to read Lord Macaulay's speech because he encapsulates this idea.

So what is a dramatic illustration of the difference or the metaphor? The example I choose is the Bible. Because I say look at the difference between charging people what the Bible is worth to them, which might be the entire gross national product, compared with the amount necessary to get the author of the Bible to produce it. You have heard me use that before. But that is a small amount. Because I simply want you to see that there are enormous differences in those two amounts.

And then I say I think the law, by and large, has opted to the economic view. The law, by and large—and *Betamax* is a good example, because the majority of the Supreme Court there opts, by and large, for this economic view. The minority says, oh, do you not see if you do not have more protection here, what you will be doing is depriving the producers of additional revenue. And in a sense, the majority responds to that by saying, well, that may be so, but so what? Less revenue in and of itself is not necessarily an evil. What we want to know is the extent to which less revenue will, in fact, mean less production, and then we want to balance the need for that production against what we might see as other evils accompanying the additional revenue through our restriction.

All right. So that is my first. See the difference.

My second point is implicit in the first. If you take the economic view, you have to balance. All right. What specifically is it that you should be balancing? Well, they are written down. I have written down four or five things on each thought.

I would say on the side of restriction, I would like you to balance the potential harms caused by restricting the right to copy. Now, what are those? Higher prices, restricted distribution, costly mechanisms needed to obtain reproduction permission, and the possibility that producers may use protection to help them achieve genuine monopoly power. All right. Those are just categories.

In a particular case, you want to fill in those categories with: is it true, how much is it true, to what extent you are going to use judgment to fill in with empirical facts, the extent to which those four restrictions might or might not exist.

On the other side, you would like to ask to what extent is protection likely to be necessary in order to secure production? Now, in other words, in the absence of protection, to what extent will, say, publishers or creators continue to produce their products? For example, you are against subsidy. But there may be places where we already have subsidy. I used to be subsidized. I mean universities subsidize their teachers. And to the extent there already are subsidies, there is less additional reason to create an additional restriction in order to get the production. To what extent would a copier enjoy cost advantage? To what extent will a leadtime advantage or a possible threat to retaliate protect the producer from too much competition? Are there alternative ways to channel enough money to the author or publisher so that he will continue to produce? Is

the Government paying the bill anyway? Is the university paying the bill anyway? Are there sort of strategic choke points, like a telephone line or a widespread computer system where, even without protection, a producer would have a handle on a way of raising the revenue by charging a toll? I mean there are lots of questions like that if you would ask on both sides of the balance.

And what I see this report doing is, it says, look, there is a balance; these are appropriate questions to ask; empirical information and knowledge of people in the industry will be helpful in answering so let us get it.

My third point is that the answer to the appropriate balance is likely to vary from one area to another. That is, trade books are not like textbooks; textbooks are not like computer programs; computer programs are different in economics from, say, television programs produced for commerical consumption.

You might end up with the same answer in a lot of those there, but it is not obvious intuitively that they will all be the same.

For example, you take a particular area. Think of the problem of obtaining permissions by libraries that want their students to reproduce scholarly works easily. That is quite different from the problem of the trade law. Well, why is it different? Suppose we have protection there. If we have protection there, then the students all have to pay additional money, let us say, in order to get the right to reproduce. That is not in and of itself necessarily a bad thing. How will they get the right to reproduce? How will they get it? It might cost quite a lot of money to get into the permission granting business. It might cost quite a lot of money to contact the publisher in order to get the right to do it.

Now, there are ways around that. There might be a clearinghouse set up whereby you can easily get permission. That might be a way around. But the clearinghouse then might have the power to raise the price to the point where it becomes kind of costly among the various producers.

There might, for example, be a simple motto placed in a book giving people the right for a price to reproduce. But is the motto going to be placed in the book with a commercial copier in mind or a student? Because depending on what the person who produces the motto in the book is thinking of in his head, it might be a low price, but it might be a high price. In other words, problems will arise out of the effort to find an easy way to copy such that the copyright infringes or stops people from copying, where the copying would be socially desirable.

At the same time, if you do not have copyright in such an area, it might not prove an overwhelming problem to the publisher. Why? Because if the publisher is in the business of selling subscriptions to scholarly libraries, he might be able to raise his price, thereby capturing back most of the revenue but avoiding the complicated cost of a permissions granting business. That is possible. I have assumed a lot to make that. I have assumed a lot of facts. My example has a lot of assumptions.

But I want to abstract from my assumptions because what I really want you to see is the answer to an appropriate amount of protection may vary significantly depending on the economics of a

particular industry, of particular circumstances. That is the kind of thing you did add, I mean in the computer chip bill. All right.

My fourth point is about new technology. New technology, I think people correctly say, raises anew the problem of what kind of protection. But new technology does not automatically again show that new protection is cost free. At the same time, in some areas, it makes new protection more important. It also makes it potentially more costly.

For example, this is an example of the image that might stick in your mind. Think of oil discovered in 1850 in Pennsylvania. Suppose a person had had a monopoly of the oil. That would have been unfortunate. It would not have been one of society's worst problems.

Now, think of 100 years later, 100 years later, if a person had a monopoly of oil, it would be a terrible problem, as we see it.

The technological change is a change about the use of oil. It suddenly makes a small monopoly, which was not a great problem, into an enormous problem. Gee, is that not a terribly unfair example I just raised, because copyright does not really involve monopoly over a single product. Copyright involves lots and lots of little tiny restrictions over individual books or software programs, and that is true. And that makes my example rather unfair.

But if, in fact, you try to avoid the problem of costly permission by creating a clearinghouse, and then the clearinghouse has the power to allow all people who have computer programs or books of scholarly materials or records or whatever to get together and to set whatever price they want, then it becomes more of a problem of a large conflict than a small one.

So then my example is not quite as inappropriate, depending on what solution you choose in terms of providing perhaps necessary protection.

My final point—and this is something that concerns me about the new agency—is, it is very tempting to solve this problem of getting permission by saying, all right, we will have the producers get together and fix their prices. Then we will worry about their price being too high. And the way we will control the price being too high is that we will create an agency that will supervise the price to see that it is not too high. And then we will see that the agency does a good job by letting judges supervise the agency.

I would just like to point out some problems with that approach. It is not just that there are problems in creating new agencies. There are. I mean we remember not too long ago we used to worry about things, I mean maybe that is all gone now, I do not know. But you remember the famous example that used to come up where somebody—it was an accident I think—that the Federal Trade Commission many years ago—I always use this example in teaching—that somebody had a proposal for labeling house plants in case somebody ate them. That was spread around as an example of a funny thing to do. But people used to be worried a little bit about agencies, and there was the CAB, the ICC, and the FCC, and I do not remember too many people saying that those agencies did a terrific job at setting prices.

Well, here, the jobs that you would be giving them is basically the job of dividing a pile of money among a lot of people who have

excellent moral entitlement. I mean Congressmen have good moral entitlement; judges have good moral entitlement; people who invent things like supermarkets, or professors who have ideas, my secretary, they all have excellent ideas, and frequently very fine moral entitlement to the fruit of those ideas.

But if you put an agency in the business of dividing up a large pile of money among all people who have good moral claims to that money, I suggest that you are asking that agency to do something that is terribly difficult, if not impossible.

And then, if you get judges into the act and tell them that they are to supervise that agency, I can say, well, there I have a self-interest. But I will say judges do not have a lot of time to deal with those sorts of cases. Judges do not have tremendous expertise in this kind of area. And I do not think really judges have more of a gift than anyone else in deciding who has what proper moral entitlement to which section of a pile of money.

Therefore, I am nervous about the idea of creating an agency supervised by judges to divide money that arises because one is worried about a private organization getting together and setting royalties in order to get around a permissions problem that the copyright law might have set up.

Now, having made those five points, I do not think implicit in them is any answer that will make it easy for you to decide precisely when and where protection is appropriate. I do think it suggests that this OTA report is an appropriate first step because it suggests the complexity of the problem, and that is not just some way of avoiding the problem. It then gives you a way to analyze particular requests for additional protection area by area, and to balance the various kinds of considerations that I and Mr. Baumgarten and others have mentioned. And I suspect that the answer in many of these areas is going to be some kind of tailored protection perhaps of the sort that you have experience with in the chip protection bill.

[Judge Breyer's submissions for the record follow:]

Prepared Statement of Stephen Breyer

The Office of Technology Assessment today presents to Congress its Report on intellectual property. A brief preliminary reading of that Report leads me to think it is a good one, for it surveys many of the difficult issues in the area; it offers suggestions for further analysis; and it begins to collect the data needed for intelligent legislative decisions. The Report properly notes the importance of copyright protection (in certain areas, increased protection) as necessary to encourage the producer, the author, the publisher of writings, entertainment, computer software -- to create their works. The Report also (1) emphasizes the importance of the reader's, the viewer's, the user's, interest in ready access to information, in inexpensive, widespread distribution; (2) it urges 'fine tuning', tailoring protective solutions to the particular needs of individual industries; and (3) overall, it flashes a yellow light, it sounds a note of caution, before the eyes and ears of those who would rush headlong towards broad protective legislation.

This morning, I shall make five brief points that will explain why I think this balanced approach is warranted. And, I hope these points will help you analyze legislative proposals for change. These five points dictate no solutions. But, they may help in the evaluation of solutions proposed by others.

My first point is that there are basically two views of copyright: there is a "moral view" and an "economic view". The "moral view" is well summarized by the story of the legendary King Diarmed, who said, "To every cow its calf". It rests in

various ways on the notion that a producer is "morally" entitled to the fruit of what he creates.

The "economic" view is that of Lord Macaulay, who told the British Parliament that copyright is basically "a tax on readers for the purpose of giving a bounty to authors". If I could recommend that you read one thing in the history of copyright, I would recommend Macaulay's speech to the British Parliament. Even though it was about books, and it was given over a hundred years ago, it is topical; it applies to the new technology; and it is correct. I would urge you to read that one well-written speech.

What is the difference between the two views? The moral view urges us to reward the author or creator in an amount equal to the benefit that all users receive from the work. The economic view tells us to reward him in an amount no greater than the least that he will take to produce that work. Let me illustrate the question dramatically. Consider the Bible. Should we charge people what the Bible is worth to them? Or should we charge them what it would take to persuade its Author to produce it? I use that example because I want you to see the vast difference that can exist between the two amounts.

By and large, the courts and the law have followed the "economic view". That legal tendency, in the copyright area, is consistent with other areas of the law, such as antitrust or economic regulation, where the law resists rewarding producers with more than it would take to convince them to produce the product.

In the recent Betamax[1] case, for example, the

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1. Sony Corp. of America v. Universal City Studios, Inc., 104 S. Ct. 774 (1984).

majority of the Supreme Court's Justices held that copyright law, like patent law, makes reward to the owners a secondary consideration. The law's primary objective in conferring a copyright monopoly upon authors is to secure for the general public the benefits they can obtain from the production elicited from those authors. The Supreme Court's minority in Betamax argued that if we allow copying, the authors or the producers will receive less money. The majority, in effect, responded: So what? Lower revenue, in and of itself, is not evil. There are people all over the world who are paid less than what their labor is worth. These include not only congressmen and judges, but also the teacher, the man who clears a swamp, the person who invented the supermarket, secretaries. Those people often are not paid what their ideas are worth to those who use them. What they are paid, and perhaps what they should be paid, is what it takes to get them to produce their ideas, to do their job.

This "economic view", in my opinion, predominates the law today. It is up to you to say what will be the law of tomorrow.

My second point is that to apply the "economic view" requires balancing. What should be balanced? On the one hand, there are potential harms caused by restricting the right to copy. These can include higher prices, restricted distribution, costly mechanisms needed to obtain reproduction permission, and the possibility that producers may use protection to help them achieve genuine monopoly power. These harms and risks must be weighed against the extent to which protection is needed to secure production. In the absence of protection, to what extent will, say, publishers or creators

continue to produce their product? To what extent would a copier enjoy a cost advantage? To what extent will a lead time advantage, or the possible threat to retaliate, protect the producer from too much competition? Are there alternative ways to channel enough money to the author or publisher so that he will continue to produce? Is the government paying his bill anyway? Is a university paying? Are there strategic "choke points", such as a telephone line, necessary to secure the product, where a producer might attach a revenue raising toll?

These questions focus the balancing inquiry. My basic point is that before knowing what kind of protection (or if protection) is needed, we must balance.[2]

My third proposition is that -- a "proper" balance -- and therefore whether or how much protection is needed -- will vary from area to area. Trade books are not like textbooks; textbooks are not like computer programs. The markets are different in each of these areas. Therefore, the degree of restriction that is likely to be necessary to secure production will likely be different in each of these areas. One cannot just assume analogies between them. If one thinks of Walt Whitman sitting in a garret, one thinks of the need for more protection. But, if one thinks of a university wanting to disseminate information widely to students -- one thinks of the importance of exceptions. (Indeed, one might also think of Kodak, able to produce cameras, film, without any protection

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2. The elaboration of this analytic framework is contained in Breyer, The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs, 84 Harvard Law Review 281 (1970).

at all.) If you work by analogy, you had better be certain that you have the right analogy, based upon the particular economic conditions of the particular marketplace at issue. In fact, my third point implies that in some marketplaces at some times the appropriate balance will be struck in favor of "no protection" at all.

Consider, for example, the scholarly library of scholarly journals. The case for exception from protection here is strong. Much scholarly material will likely be produced without protection. The people who produce it are on a payroll of a university that independently rewards them for writing. Professors often write articles for fame or for tenure, not to sell them. Thus, the economic need to protect the author of this type of production is fairly minimal. Of course, it still costs money to publish scholarly material. But, copyright is only <u>one way</u> to channel enough money to the publisher so that he will publish the article. There are other ways of doing so. Scholarly journals are produced by scholars, and published primarily for scholarly libraries. If libraries are free to copy articles for their own use or for students, libraries may need (and pay for) fewer subscriptions. But that fact does not automatically mean less money for the publisher, for the publisher can then raise the price of a single subscription. The publisher can recoupe the same revenue from the higher subscription price, for the libraries and their student "customers" obtain at least the same benefit from the "single subscription with free rights to copy" as they previously obtained from "many subscriptions".

But, if the publishers earn the same revenue and the libraries pay about the same total bill, what have we gained? Have we gained on the swings only what we lost on the round-

abouts? Not necessarily so. Even if the sums of revenue the publisher receives under either system come to roughly the same amount, an exception from copyright means the libraries and their readers have avoided the administrative problem of obtaining permission to copy. If the publishers collect their revenue via higher subscription fees instead of via a copying fee (imposed pursuant to copyright liability) there is no need to write the negotiating letters or invent clearinghouses to obtain copying permission. And, the savings here may be very large. In this example, a system without copyright restrictions would be a cheaper, simpler system.

I will not defend the assumptions that make my example work, for its object is to stop you from immediately assuming -- as is too often done -- that one must always have a copyright system to encourage production, to deliver necessary money to the producer. Thus, when new technology is at issue, we must not simply think in terms of added copyright protection. Rather, sometimes it will pay to think imaginatively about alternative methods of securing production. And, if we do so, sometimes we shall find that no protection or only limited protection, is desirable. It seems to me that the recent "semiconductor chip" protection bill is an imaginative attempt to balance the need for and risks of protection in a particular area, and to tailor the resulting protection to the particular needs of the product.[3]

My fourth point is about the new technology. We have heard about how new technology increases the risks

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3. See Kastenmeier and Remington, The Semiconductor Chip Protection Act of 1984: A Swamp or Firm Ground?, 70 Minnesota Law Review 417 (1985).

accompanying permission-free copying. I agree with that. But I also want to focus on a contrary point: At the very same time, the new technology means that the restrictions that accompany copyright protections risk additional harm.

Let me give you an example. In Pennsylvania in 1850 one could find pools of a black, sticky liquid called oil. Suppose somebody then had had a legal monopoly to produce oil. One might, in 1850, have felt this monopoly was bad, but it did not constitute a terrible social problem. Oil then did not seem that important. Consider the later invention of the automobile and reconsider the social effect of placing oil in the hands of a monopolist. At the same time, remember that to obtain most or all of the potential monopoly profit from, say, oil, it is not necessary to own all the oil. All one needs to own is a tiny bit of something absolutely necessary to produce oil (say, a drill). If one can copyright an essential part of a new invention, the copyright holder can obtain much of the profit that arises from that invention. Thus, to the extent that copyright creates potential monopoly-type restrictions, the very fact that the new technology promises such benefits means restrictions present a special risk of harm. One must examine the potential for such harm before automatically deciding that copyright protection is the best way to encourage production.

Is this analogy to monopolies a fair one? After all, we are not talking about a monopoly held by John D. Rockefeller; we are talking about tiny monopolies over small individual "writings". But these tiny monopolies can work serious monopoly harm if all the tiny monopolists join forces. And, they might do so. Sometimes the only practical way for copyright owners to collect their royalties is for all of them

to get together and fix the price of a copyright permission. Blanket licensing and clearinghouses provide examples. At this point one no longer has tiny monopolies; one has a somewhat grander cartel. The 'oil monopoly' analogy becomes somewhat more appropriate.

My fifth and final point concerns suggestions that you create a new "intellectual property" agency. Of course, it is tempting, when Congress is faced with so difficult a problem, to create an agency to find a solution. But, I would distinguish between an agency that advises you in Congress about the merits of proposed legislation and an agency that itself creates and enforces copyright law, for example, setting and collecting copyright royalties. The first -- "advisory organization" -- may well be helpful, as the OTA Report itself demonstrates, for it both provides useful information and will help to focus the legislative debate. But, the second -- "enforcement agency" -- is more problematic.

Consider, for example, the obvious temptation to solve the "cost-of-obtaining-copying-permission" problem by creating a clearinghouse, and then solving the resulting "producer-cartel" problem by creating an agency with the power to set a "reasonable royalty". The risk inherent in this approach arises out of the fact that the basic task given the agency is no more, and no less, than simply dividing up a pile of money. The human beings who divide up such money rarely have any special gift that tells them how to do it. They tend to negotiate among claimants and split the difference, in an effort to arrive at some "fair" (but, economically speaking, random) result. Experience with regulatory agencies, such as the Civil Aeronautics Board, or the Interstate Commerce

Commission, or the Federal Communications Commission, suggests that agencies are not particularly good at setting prices at a "correct" economic level; and, here the agency would be given a job that, from the outset, seems unusually difficult: the allocation of money amongst various applicants, each with some plausible "moral" entitlement to a share.

Of course, one might ask the courts to police the regulatory agency. But, judges have no particular expertise in this area. Nor are they likely to have the time needed to master the technical complexities. Nor can they readily obtain all the necessary information. In other words, in respect to a "fair" royalty level, I do not believe courts or agencies would produce more sensible results than would Congress.

In sum, I have tried briefly to encapsulate in five points some of the problems that typically accompany copyright protection. These points reflect an "economic" perspective. I have tried briefly to describe some of the questions you might ask when trying to create a "proper" balance of interests, in determining whether, when, or how, copying protection should be extended. And, I hope I have explained why OTA's findings of complexity and its note of caution are appropriate.

Thank you.

Responses of Stephen Breyer
to Written Questions Submitted by Senator Mathias

Copyright exists to serve many goals, and sometimes it is not clear whether it can achieve all that we ask it to. Mr. Baumgarten referred to a trio of important values --- copyright, technological progress, and social freedom --- and notes that some view these forces as working concurrently, while others think they are in "demonic opposition." Has the development of copyright law helped or hindered economic growth and civil liberties in recent years? Or has it had little impact?

If we want to prevent copyright from working at cross-purposes with either of these other values --- technological progress or social freedom --- what danger signs should we be looking for?

The first part of this question calls for a 'global' judgment that I feel unqualified to make. Rather, I should prefer simply to point out that some areas of copyright coverage obviously need protection (such as trade books, records, tapes) -- while in other areas more tailored copyright protection might be needed to avoid interfering with technological progress or social freedom (scholarly libraries? academic research? computer 'systems' programming'?). The question about how to identify these latter areas is a good one. In an effort to do so, I suggest asking the following three questions about "candidates" for protection:

First, is this 'commercial area' one in which copying itself is likely to prove <u>specially</u> necessary to technological progress or to serve some other particularly important social interest? In the case of the scholarly library, for example, the act of copying itself furthers research, the spread of knowledge, and 'civil liberties' interests, perhaps in special ways. Similarly, the copying of "basic systems" programs, by disseminating the fruits of research, may stimulate new ideas, further program development, and encourage potentially desirable 'standardization.'

Second, in this "commercial area" is the 'permissions cost' problem likely to prove a significant obstacle to the dissemination of ideas? Again, one can imagine the problem of, say, the researcher or student trying to obtain permission to copy a magazine article; the cost of contacting the copyright owner may itself either discourage desirable copying or

encourage unlawful behavior. The 'solutions' to this type of problem themselves typically raise problems. To simply charge more for a magazine that carries with it a 'right to copy' will work in some instances; but, where that 'extra price' is set with a commercial copier (say, a corporate library) in mind, it may be too high to allow, say, copying in a nonprofit library; and the 'permissions cost' may still act as an obstacle to the potential user negotiating with the publisher for a lower price. I have already discussed the problems inherent in the 'clearinghouse' approach.

Third, in this "commercial area" is the small 'monopoly' that copyright confers over the publication likely to become a big monopoly because of certain special features of the industry? Is the copyrighted material, for example, an essential ingredient of a technologically valuable 'package', as, for example, a copyrighted television film might be an essential ingredient for use of a VCR? If so, would the power to control the copyrighted material extend the holder's power to the entire technology, allowing its holder, for example, to extract extra profit from use of the more broadly defined product? Will there be adequate competition among copyright holders to prevent this result? Or, will a 'clearinghouse' or other mechanism, allow the 'pooling' of copyrights and bestow added market power on their holders?

Of course, these three questions, even if answered affirmatively, do not mean "deny protection." Rather, they mean one should go on to ask further questions about the need for protection: Are there other advantages that will lead to the necessary production in the absence of copyright? Should protection be granted for a specially limited time? And so forth. (I have referred to these questions in my prepared testimony.) Affirmative answers, however, may serve as 'danger signals', suggesting that industry-specific or area-specific economic facts should be sought (even if the facts come roughly in the form of 'guesstimates') to see if tailored, rather than broad, protection is called for.

Mr. KASTENMEIER. Thank you very much, Judge Breyer.

Let me raise a couple of tangential issues relating to the creation of a new agency and judicial review.

I bring up the issue of courts, new technology and intellectual property, copyright particularly.

You have explained that courts are busy meting out proper parts of the pie and that sometimes this may not be a satisfactory function for the courts. But, generally speaking, with respect to judicial application of principles of copyright law, do the courts play an appropriate role in your view? Would it be better if there was less necessity to resort to litigation involving basic principles which end up and go through the entire court system, such as Betamax litigation?

Judge BREYER. Well, Jon will have a pretty good view as far as the task. I think in working with the past acts, the courts probably have done a reasonably good job for the reason that one does not hear enormous criticism past that.

Now, in terms of allowing the extension by analogy to new areas, I would be pretty nervous. Because courts will work by analogy. And in fact in this area the result you reach tends to depend on which analogy you choose.

See, I read through at one point the entire history, legislative history of the 1976 provision. And it is filled with analogies to Walt Whitman sitting in his garret. Then, as soon as you think of Walt Whitman sitting in his garret, then you think of one solution, right? But, then, if you start thinking of the scholarly library and the need to have students copy, you think of a different solution. It depends on which analogy you choose.

So many of the questions of extension really I think turn on matters of fact which are legislative fact. You know, I talk to Jon, I learn something interesting. He has lots of facts at his disposal. And he has—and his clients will not—well, he will feed some of them into a court case, but not those that are not directly relevant, and not those if they can avoid it. It will not help them.

So I think it is really an important legislative problem, the problem of extension. And I think that the fact gathering has to take place guided by, of course, in my personal view, would be guided by, say, the four categories of possible harms, the four categories of possible benefits, and then you try to elicit from people the information that allows you and Congress to make a judgment. It is difficult. It is difficult for us. But it is simply the kind of question that I think calls for legislation.

Mr. KASTENMEIER. Mr. Baumgarten, on the same question.

Do you foresee the likelihood that we will have to rely on the courts too much to resolve new technology and copyright questions?

Mr. BAUMGARTEN. I have more confidence in the courts than the OTA report suggested.

One of the problems has been that in several cases where problems of new technology have arisen in the courts, the courts have felt themselves incapable of handling it, and then said, "This is a matter for Congress," which brings us back to where we were at the beginning.

But to use an example that Paul Goldstein used, the OTA report seems to be quite pessimistic about the application of copyright to software. Paul, I think, himself suggested he had real concerns with some of the cases that have begun to emerge in the so-called second generation of computer copyright litigation.

My own view is that, at the least, it is much too early to take such an approach. There are now three cases which essentially conclude that the scope of protection in computer software goes beyond the literal code of the program. This itself is not a troubling notion at all in terms of conventional and proper application of the copyright laws.

How far it goes remains to be seen. In one case, I do not think the critics are as troubled by the conclusion as they are by the language. That case is now on appeal in the fourth circuit.

I think it is a little too early to just give up on the courts on some of those issues.

There are other areas. *Betamax* is probably the principal example, and the pre-1976 cases in cable television where the courts themselves felt that the judgments required were such they could not make and bumped it over to the Congress.

I have a good deal more faith in the courts than the OTA would suggest. For every *Betamax* case which, to my view, is wrong, there is a Harper & Row versus the Nation case which, in my view, was right. But where to draw a line between where the courts themselves will take the initiative and where they will defer to the Congress is, I think, one of the more troubling issues.

Mr. KASTENMEIER. You do apparently differ with Judge Breyer with respect to his support for the report in terms of sounding a word of caution, a "yellow light" in his words, about rushing toward new legislation. Does Judge Breyer's view contrast with what you said regarding calls for expedited action and an agenda presumably of rights to be expressed in statutory form.

As relates to the latter, what would you say is on the agenda of legislative items to be expedited in response to technological change?

Mr. BAUMGARTEN. I will answer that with two prefatory notes, Mr. Chairman.

First, I do not think that Steve and I are as far apart as might appear. I have no problem with most of the questions he asks. However, I would hope that he gets rid of some of the assumptions and conclusions he draws. They are in many cases inaccurate and troubling, and we can discuss some of those if we have time. And I have no problem with the notion of a "yellow light" as such. I think one of the reasons that the 1976 act to a large extent has worked—and although there are problems with it, the basic framework has worked—is that there was a cautious approach taken.

My second caution is that the chairman knows that I am identified with some of the interested parties in the matters I will refer to, and I think that should be noted.

I think the question of private use is something that calls for pressing solution. The preeminent example now is the audio recording area. And the audio recording issue shows, by the way, another side of technology that none of us have talked about, and that is the use of technology to solve problems rather than to cause

them. During last hearing on audio recording, there were suggestions that new technological devices could help solve the problem of unauthorized recordings, provided there was an appropriate legal framework.

As another example, OTA refers at several points to the question of the difficulty of identifying authorship in today's society. And yet, Mr. Chairman, you may recall that during the Fort Lauderdale symposium Karen Hunter, speaking for Elsevier, suggested a concept that is just the opposite: that the new technologies and the abilities of the computer make the tracing of authorship and individual contributions to a data base much easier than they were before. Perhaps there is something here—rather than always viewing technology as the enemy, viewing it as something that could help us solve these problems.

But to get back to your question, I would think perhaps the most pressing issue and the one that has received a considerable amount of congressional attention and, therefore, has seen the yellow light flash, is the question of private use in various realms.

Now, I do not want to use this hearing to pose what I think is the correct solution, but it is an area that I would list as one of the priorities.

Mr. KASTENMEIER. Let me ask a different question of you both.

Since it has been exactly 10 years since the 1976 Copyright revision was enacted, from an overall and detached standpoint, what would you say about the law? And then I will ask you for your comments on events that have happened in the intervening years.

What sort of criticism would you now express as a general overview in brief form concerning the revision of 1976? Was it too generous?

Judge BREYER. I remember reading through all that legislative history. Also in front of me I had the volume of the British Parliament's revision of about 1870. That was awfully nice. Take the reins to the questions of readers, and then I had these volumes. I thought the volumes were——

Mr. KASTENMEIER. They did not have television then either though.

Judge BREYER. I didn't think it reflected tremendous sensitivity to the interest of the reader or the scholar. For example, a very minor point in public policy, but they extended the term, the life of the author plus 75 years. I said why, why? I mean are you really worried about middle-age orphans of the author, you know? Is it the author in thinking when he writes, oh, I want to be certain that I am doing this for my children? There may be some. That is fine. But they were worried about what I call the case of the doddering protege.

Mr. Will Dillon was the author of "I Want a Girl Just Like the Girl Who Married Dear Old Dad." It is a terrific song. He wrote it when he was very young. He was 87 years old when he came in to testify. And it is true that the copyright expired. And people were saying, gee, we ought to give him additional money.

But my point is I do not think people there analyzed very much what restrictive effect there might be through extending protection when not much of a case had been built for protection.

Now, as it has worked out, I have not heard tremendous criticisms of it except in this emerging area of computer software where people seem a little uncertain.

You have said, well, the courts will work that out. But, as I gather, the problem with computer software is if you take copyright protection literally and just protect those expressions on paper, you have not protected very much. And the computer software people will then say, well, this is hardly worth anything. Because anyone who reads my program can copy it but just change the marks around.

But if you have to get meaningful protection to copyright, you begin to protect the idea. And insofar as you move towards protecting the idea, copyright protection ties it up for life with the author plus what is different years now. While the patent law would tie it up for only 17 years.

At least there is a long article written by Pammie Samuels who is worried about the fact that copyright protection has meant that when it is registered, the software program will not be disclosed. It is that kind of thing that again I do not have a definite solution. But even in talking to Jon, I suspect that from the point of view of both the industry and the interests of people who want rapidly to disseminate the ideas that are in software, including creators, it is not obvious that we just leave it up to the courts to work by analogy.

And to that extent, I am not certain that that 1976 bill deals with a lot of problems that are now pressing upon you as a legislator.

Mr. KASTENMEIER. Mr. Baumgarten.

Mr. BAUMGARTEN. I am not surprised I have some disagreements with Judge Breyer.

Yes, the Congress extended the term of copyright, but they also put an end to perpetual common-law copyright, thus ended up discharging a great variety of material ultimately into the public domain. As the chairman and David Lang have pointed out recently, for example, one has to consider the impact on the public domain as well.

And not all of the 1976 act was "protectionist." Judge Breyer referred to photocopying. The act includes guidelines on classroom copying, negotiated by the industries under congressional direction, section 108 of the act and section 107. In fact everything following section 106 is an exemption or limitation, not a grant of protection.

To try to answer your question, Mr. Chairman, I think in broad scope, and that is about the only way really to approach it now, a great number of the changes made in the 1976 act worked. There are problems of compliance in the juke box area, which are now, hopefully, being improved. There are problems in compliance with respect to corporate photocopying which have improved. Unfortunately, in one case, we have had to go to court, but in the development of the copyright clearance and certain relationships, there has been improvement.

There are problems with application of some Copyright Office regulations to data bases and to software. These are being worked out in rulemaking proceedings, so we will not have to trouble you

with them unless we feel that the Copyright Office does not respond appropriately.

There are also issues that were not anticipated. The great change in cable television that has occurred at least questions the need for a compulsory license. There are changes even from 1980, when you amended the act regarding software; changes in the environment in which software operates and is marketed. But I do not think these are hallmarks of failure.

I had something to do with the 1976 act, not hardly as much as you and your colleagues and my predecessors in the Copyright Office, but I still take pride in it. And I would not consider it a failure. It is something that has to meet new circumstances and be refined or modified in some cases.

Mr. KASTENMEIER. Well, I think Judge Breyer's concern is an overgenerous extension of term and perhaps complexity in the act.

Judge BREYER. It would take many desirable changes, Congressman, and I am not saying it all. So we may disagree less on it.

Mr. KASTENMEIER. Let me ask you about the compulsory licenses. This subject was alluded to in terms of whether we need a new agency administering things.

I guess the question is, as we look and try to peer into the future and we look for ways to respond to questions, should our experience with compulsory licenses to date suggest that we use them or not use them as alternatives to going all the way? You know, when Congress reverses one industry's nonliability and creates a total and absolute liability, and courts often are not able to do anything but decode one or the other, we can modulate that by such devices as a compulsory license so that the traumatic effect on one industry is not so absolute.

However, I do not say that is justification of compulsory licenses; but I mean that is clearly and currently one of the elements that has led to the use of compulsory licenses.

As we get into the more complexity with respect to the impact of new technology and protections being sought or modified, has our experience with compulsory licenses been affirmative enough to consider that as an option? Or should we try to stay away from compulsory licenses?

Mr. BAUMGARTEN. I will try the first crack at it.

Some people like to be critical of American copyright law, pointing out that before the 1976 act, we had one compulsory license. Now we have four.

As you pointed out, Mr. Chairman, there were special reasons for each of those four. Whether those reasons continue in each case is another matter, and I do not feel competent to speak to it now.

But, at the time of enactment, the Congress felt there there was a legitimate, special reason for each compulsory license. They were not adapted as a quick political fix to a contentious problem. As long as we avoid the latter motivation to compulsory licensing, as long as we avoid the notion that compulsory licensing is an easy solution to a difficult problem, then, although I will make a number of my clients squirm, I think an investigation of a possible compulsory licensing is within the yellow light area.

I am not an advocate of compulsory licenses. I think they have great dangers. But perhaps my greater fear is that it may be

simply thrown up as a solution because we do not make the effort to consider anything more innovative or better.

And there are devices that can "almost" be compulsory licenses but which are not, and which can work without the intervention of the Government or with compulsion.

I think Steve's descriptions of some of the clearinghouses, for example—and I do not equate them with compulsory licenses—are a way to make things work. But some of those descriptions are wrong. The Copyright Clearance Center, for example, does not operate by setting fees. Every participating publisher sets its own fees. And ASCAP is subject to a court oversight of its fees.

I guess to a certain extent, Mr. Chairman, I am dancing around your question, but my biggest fear of compulsory license is that it is just simply a tossup solution. The users are screaming, the owners are screaming, so get rid of the problem by adopting a compulsory license. That is not the way you did it in 1976. I hope it is not the way it is done in the future.

My hope is that users and owners—these unfortunate categories that we talked about which do not really exist because every university you referred as concerned with making copies for their students is also concerned about protecting its own copyright in the software it has developed under Government grant—can work things out without compulsory licensing.

But as long as the compulsory licensing is not just a bone to be thrown to solve the user-owner controversy, then I think compulsory licensing, and other forms, other variations, such as the amendment of the Federal Communications Act last session to leave licensing of dish reception to the private sector, but to tell owners you have got to come up with a license before you can enforce your rights, deserve consideration. Those are all things that fall within Steve's yellow light.

Judge BREYER. Yes; I see there are a couple of virtues in compulsory licensing. I mean suppose that your problem is that there are lots and lots of widely disbursed people, whether they are people who want to use a computer program or students who want to copy it. There is maybe a big social interest in allowing them to copy it. The process of getting in touch with the producer in order to obtain permission is itself costly and complicated.

The market will not necessarily work that out right. You may end up with a producer cartel regulated by an antitrust judge. I do not know but that is a great solution.

You might end up with what you said about the copyright clearinghouse finally ended up with, which is a legend, saying copy free for a payment of such and such. But that number there might be set with a commerical user rather than a student user in mind. It is hard to find appropriate solutions to where your problem is, the cost of obtaining permission.

Now, under that kind of circumstance, a compulsory license has a virtue. It can cut that cost because the student or the user of the program knows he can do it.

Now, I will say one other potential virtue. The other potential virtue is that it can force the legislators to focus directly on what is at stake. Namely, we are going to take a pile of money from these users in such and such an amount and transfer it through the pro-

ducers so that the producers will continue to produce. By focusing clearly that question, you will then have to say do I want to do it? The answer might be yes, I do sometimes. But if I am putting the point deliberately that way because I think it is better that you focus directly on the question in terms of amounts rather than say let us do it but we are going to set up a group of wise people over here called the tribunal that themselves will figure out the right count. Because I think that simply hides what is really at stake, namely, the transfer of the money.

So if you are going to take that, there is at least one argument in favor if you take that route of deciding at the same time how much money you want to pay, that is, putting numbers in, maybe inflation will adjust it some. I say that simply in argument because I do not know that it is conclusive.

Mr. KASTENMEIER. Mr. Baumgarten, is Judge Breyer's concern—as just now expressed and before with the transactional costs of either existing or new potential copyright coverage—legitimate?

Mr. BAUMGARTEN. In some cases, yes. I would suggest that although my statement on the OTA report emphasizes the burden on Congress to come up with with innovative solutions, I have no intent to hide the fact that the copyright proprietors are going to have to do some innovation of their own.

When the Copyright Clearance Center was first established, it was a transactional-based system. The user community vigorously objected to the transactional costs involved. The publishers and the CCC did something about it. They created an annualized licensing system which eliminated the transactional costs. It seems to be working. Unfortunately; some of the same user organizations that insisted that the Copyright Clearance Center move to a nontransactional system, are now advised that when CCC comes to see them, the best thing to do is to sign up with the transactional system because the publishers will not know the difference between their actual and reported copying.

But there is an obligation upon copyright owners themselves to come up with some innovative ways to reduce those burdens, and I think it can be done.

Transactions costs, I am afraid, may be sometimes too clever a cover to try to whittle away rights. There are always transactional costs involved with any system of property. The question may be whether they are tolerable to an extent that interferes with anyone getting any benefit in the property, and I have not seen that yet.

But I think both the copyright owner and user, communities, as well as the Congress share a responsibility for new ways of minimizing them if possible.

Mr. KASTENMEIER. Let me ask one last question and then I will turn it over to my friend and colleague.

Judge Breyer, you are presently a member of the Sentencing Commission.

While the OTA report does not really contain much of a discussion of the criminal sanction in protecting of intellectual property or the prosecutor's function and corrections, is—and it may not be fair to ask you—the present state of affairs with respect to crimi-

nal sanctions for violation of intellectual property rights, excessive or understated?

Judge BREYER. It is rather interesting.

We are in the process of trying to find out, item by item, that is crime by crime, United States Code section by Code section, precisely what happens to the people who are convicted of violating that section. That process of finding that out has turned out to be more complicated than one might have thought. The information is not readily available in a single place where it is both up to date and easily broken down in ways that are useful directly for us. We will get it. It is not impossible, but it will require work.

Mr. KASTENMEIER. An inference can be drawn from the fact that there are substantial sanctions 2 years, 5 years imprisonment in the law.

Judge BREYER. I do not know yet whether or not these sanctions are being imposed.

Mr. KASTENMEIER. No. People can go to jail for long periods of time.

The inference seems to be drawn though that if, in fact, the criminal sanction is not employed, that the law itself may have been excessive and ought to be——

Judge BREYER. I would not yet, for this reason. Of course, I aim my remarks at trying to make both those in your industry and others more sensitive to the problem of the user obtaining permissions and having that reflected in the law. Of course, that is the thrust of it.

Equally, there are instances where the law is clear, where is every reason to give protection, and that a person goes in, copies a tape or a record or a book and sells it. And he is doing it to make money. And he knows that it is illegal, and he knows that it is simply supplanting the publisher's or the author's right to make that money themselves. That is a form of commercial theft. I mean I am not talking technically. But it is very hard to see differences between making money, wide scale, out of an obvious clear violation of somebody's property right there and in a lot of other instances.

So I would not draw from the fact that I am trying to produce, let us say, greater sensitivity in borderline areas, shaping the fringe of the law to the conclusion there are, nonetheless, hard core examples of copying that are commercially wrong.

Mr. KASTENMEIER. Thank you.

Senator Mathias.

Senator MATHIAS. Thank you, Mr. Chairman.

I regret that I was delayed.

Congress normally is a reactive body but, in some cases, we are an anticipatory body. We anticipate that things will happen, such being called out of the room during any important statement, so we require you to give us copies in writing in advance.

In reading your written statement, I was interested in the distinction that Judge Breyer draws between the moral and the economic approaches to copyright. By moral approach I mean to give a just reward to the creator. The economic approach is the view concerned with the benefit to the community.

Mr. Baumgarten, Judge Breyer suggests that the economic view is the predominant view. Would you say that you agree?

Mr. BAUMGARTEN. I think——

Senator MATHIAS. No. 1, do you agree with that distinction?

Mr. BAUMGARTEN. Yes. And I think the distinction is found in sufficient writings. My own view is that they should both be applied, but I think Judge Breyer is probably accurate in saying that the tendency of the courts is to give more weight to the economic view.

I would not, however, agree with Judge Breyer's definition of that concept. In my view, it gets much too detailed and specific, to ask how much is it going to cost each producer to continue to produce a specific work, and to conclude that is how much we are going to protect them.

I do not think any court, and I do not think the Congress has taken or should take the economic incentive theory down to that level of specificity. I think it works at a system level, the system of incentive works.

Judge BREYER. That is an important point. Because that is so often the issue with antitrust, with a whole lot of economic areas of thought. And the question is how finely do you want the judge or the legislator to start looking at the individual transaction? I do not think they should be individual transactions. And you do not think there should be just one law for everything under the sun. And the question is what degree of specificity and fine tuning do you want? And that is the issue that the economically oriented lawyers often disagree about.

Senator MATHIAS. But both of you would agree that the moral view should not be abandoned totally?

Mr. BAUMGARTEN. I strongly urge in my statement that it should not. And one of the difficulties I had with the OTA report was that I did not think it gave enough weight to what Judge Breyer calls the moral view.

I may be wrong after one analyzes the report, but I think that is the case, and I think Judge Breyer thinks so to a certain extent.

Judge BREYER. Yes. I mean there are places to make sure, particularly I think in European law, there is something called garde suite, is there not, where an author, for example, can follow his work like a statue or a painting into the hands of third or fourth parties and prevent them from perhaps mutilating the work. And I think that exists, those moral rights of authors exist less in our law.

Mr. BAUMGARTEN. Mr. Chairman, could I just add one thing in light of your hearing yesterday, and in light of what Judge Breyer just said.

The "moral view" we are talking about now, the moral view of copyright, is not the same thing as the doctrine of moral rights as opposed to economic rights. We are talking about something different from the conventional meaning of "moral right.".

We are discussing the reason people are compensated—whether it is solely for reasons of economic incentive, or for reasons of elemental fairness as well—rather than the types of protection they get.

You heard enough about moral rights yesterday.

Senator MATHIAS. I am grateful to you for making that distinction because I think it is a valid one. In light of the avalanche of testimony at our subcommittee's hearing yesterday on U.S adherence to the Berne Convention, it is confusing.

I think Judge Breyer may have been talking to me when he said he approved of the note of caution in the report to those who would rush headlong toward broad protective legislation. Since I have been the author of home taping legislation, I accept the admonition as being directed to me at any rate. And, of course, caution is never out of order.

But there is another problem in legislating this very complex field. As you know from your years on the Hill, Congress is not unhappy when it can leave the status quo alone. Sometimes that is a wise choice.

Tallyrand once said that it is a great advantage to have done nothing as long as you do not overdo it. [Laughter.]

The home video taping case is a good case if you assume for the moment that the legislation is a good idea. It is a feasible idea as long as you have a million or so VCR's in the country. But if you have a projection that within 1 year or 2, or within 5 years, whatever the time, there are going to be 50 million VCR's in the country, it becomes a very different kind of a problem.

Where do we find the guidances on when we slow down and when we speed up?

Judge BREYER. Well, I rather like what you probably have done with that legislation, that you asked certain questions of people. You obviously have asked some questions about how many systems there are going to be, what is the revenue you are going to lose without protection, how will it help you? You also ask them to what extent are there people who want a copy and to what extent will my legislation interfere with their ability to readily get permission to copy, and is there a way around any possible impediment?

Then when you satisfy yourself that you have the best answers you are likely to get to those questions, that is, within a reasonable time. It is a judgmental matter. Then you are prepared to legislate. You legislate.

What I like about the OTA report, you see it was not exactly the yellow light of caution, it was the fact that they are listing a series of questions to ask proponents of legislation. You will then get the answers. And then when you get the answers, you go and you feel satisfied that you have the answers to those questions.

Senator MATHIAS. Mr. Baumgarten, you take the other side of that issue in your statement. You express concern that Congress will delay too long. You do not specify the areas that you feel call for expeditious action. But OTA identifies four issues: enforcement, private use, functional work, and international intellectual property system. These are four issues that they think Congress should address sooner rather than later.

Would you agree that these are the four most pressing issues?

Mr. BAUMGARTEN. In your absence, Mr. Chairman, Chairman Kastenmeier asked me a similar question. And my response was that in my view the most pressing may be question of private use. However, I also made it clear at that time that since I have been

very closely involved with support of your measures and am identified with the proponents of those measures, that I preferred just to speak of private use in general without identifying the particular bills.

But I think that in this private taping area, the questions that Steve wants asked have been asked, and I think it is time to pass the audio bill. The questions have been asked. I think they have been answered. And I think it is time to act.

But that is just one species of private use.

Senator MATHIAS. One of the problems that Chairman Kastenmeier and I have attempted to address with members of our subcommittees is the need to educate Congress so it can effectively deal with these problems.

The symposium to which you referred, which we had a year or so ago, was that kind of an effort.

How much does the Congress need to know? It is a difficult question to answer.

If you wait until every member of a committee is fully educated, you obviously will never get anything done. On the other hand, you cannot just legislate in the dark. You have got to have some understanding of the issue.

What do we need to know and how do we go about knowing?

Mr. BAUMGARTEN. It is a rough question. I think the way you go about doing it is the traditional way and some nontraditional ways.

I think the OTA report is a good example of the latter. All the witnesses today have acknowledged the wisdom of Congress in seeking that.

When do you have enough? I do not know that there is an objective answer to that. Maybe the only answer is subjective, when you feel you have enough information to justify acting in your own conscience, serving both your institutional responsibilities and your responsibilities to your constituents.

I would just add one thought. Judge Breyer, in his prepared and oral statement, urged that you read Lord Macaulay. After you have finished with Macaulay, please take 1 minute, it will not take longer, and read the testimony of Quincy Jones on audio royalties in Los Angeles 2 years ago. Then take an additional 30 seconds and read three sentences uttered—Mr. Kastenmeier, you may remember—by Eubie Blake at one of the revision hearings almost 10 years ago. In the space of that 1½ minutes you will get perhaps the most eloquent statements of what copyright is all about, and a picture more accurate than Lord Macaulay's historical diatribes.

Judge BREYER. Well, there may be also a political aspect here. I am thinking of the criminal code. I mean any major change to face this problem, I mean the terrific problem of every time, you know, an issue would come up, and we felt that we had part of this worked out, then there would be five other people, legislators, who would not know about the thing having been worked out, and they would become upset about it.

Senator MATHIAS. But I perceive a little difference between the criminal code problem and this problem of working with new technologies.

The criminal code problem was just a mess. How many pages? I think there were 1,465 pages or something in the bill.

There was nothing in those pages that most members of the committee could not deal with intellectually. It was just simply the mass that got thrown at them which was difficult to digest.

With technology, however, it seems to me unless we organize ourselves properly, you could create a kind of a priesthood of experts who would come in and tell the committee what to do. The committee is at least up to speed on some basics in the various technologies, but should that situation develop, they will be at a real disadvantage.

I am not suggesting that has happened. I am not suggesting that it will happen. But it is something to think about as we approach this whole problem.

Mr. Chairman, I think I will reserve any further questions that I have and submit them in writing, if I may.

Mr. KASTENMEIER. Upon that note, that will conclude then our hearings. And the committee is indebted to both of our witnesses, Judge Breyer and Mr. Baumgarten, as well as those who preceded both of you, Ms. Garcia and Professor Goldstein. And those who collaborated with you or participated with you in the production of this work.

Senator MATHIAS. Mr. Chairman, Mr. Baumgarten suffered through yesterday's hearing. I think it is above and beyond the call of duty to be here today.

Mr. BAUMGARTEN. Thank you. It was fascinating.

Senator MATHIAS. Judge Breyer, I would think, might never ever want to come back to Capitol Hill, but we are glad to welcome him back again.

Judge BREYER. Thank you.

Mr. KASTENMEIER. On that note, the committee stands adjourned.

[Whereupon, at 12:30 p.m., the subcommittees adjourned, subject to the call of the chairman.]

APPENDIX

30 EAST 20TH STREET / NEW YORK, N.Y. 10003 / (212) 777-7353

Testimony Regarding
Receipt of the Report of the Office of Technology Assessment
on
Intellectual Property Rights in an Age of Electronics and Information

Before the

Subcommittee on Courts, Civil Liberties and the Administration
of Justice of the House Committee on the Judiciary

April 16, 1986

Presented by the
Graphic Artists Guild
American Society of Magazine Photographers
Society of Illustrators

The Goals Of The Intellectual Property System--The Good Society.

"The new technology raises some fundamental questions of protections. In our practice, many independent freelancers help create our culture. The climate for creation includes the need to protect artists' authorship and ownership rights. Without these protections, there is a poor climate for survival of these singular practitioners.

"This is not simply an issue of technology, it is a question of ethics and a "good society." The new technologies are changing the institutional balance in favor of those with the financial resources to buy and use the equipment...that has implications for what we have considered our right to a diverse pool of ideas and images in our culture."
Milton Glaser

It is our view that the the purposes of Section 8, Article 1 of the constitution are interrelated. Diversity of thought and expression is fundamental to a democratic society, and the ways

in which that diversity is encouraged and protected support that fundamental precept. This support is the realm of public policy debate. In order to protect and encourage creators who foster the dissemination of ideas to the public, appropriate incentives and rewards must be available and appropriate protections must encourage the goal of the free flow of information and ideas.

Intellectual Property/Physical Property Rights

In the development of the U.S. constitution, our legal system and in the creation of authorship rights protections, our nation's founders recognized the need to be able to intervene in and manage the economic affairs of the country. And consequently, institutions were established to adjudicate among conflicting economic interests. It was also clearly understood that intellectual property is an economic resource that is traded in the marketplace. With those two factors apparent, our constitution recognizes that owners of intellectual property are entitled to equal protections under the law. And, in fact, if these rights do not exist for intellectual property (which is traded and has a verifiable value) why should owners of physical property have rights under the law? The weakening of intellectual property rights, weakens the system of property rights in general and has profound effects on both our economic system and our stated goals as a society.

Balancing Public Good & Economic Benefit

Property rights have always required a delicate balance and interplay between the public good and economic benefit. The consequences and uses of new technologies clearly depend on the same complex interplay of these two goals, that is, how will the public good be served or not served by the many ways in which technology can be exploited. The role of public policy, then should be to foresee the ways in which technology should be used, the impact on the marketplace and on the individual players in the marketplace. Overriding social goals must be examined so that policy and the uses of technology can be planned and shaped within the context of society's needs and economic benefit.

- Creators Must Participate In Policy

One actor in the policy debate on intellectual properties and new technology is the creative professional, whose livelihood depends on benefiting from the use of products that are dependent on their talents and skills. The growing importance of intellectual properties as commodities in our society (which is moving rapidly towards a service and information orientation) mandates the need for policy makers to work with creators on strengthening protections for the quality, diversity and originality of these properties and the artists who create them. Economic remuneration commensurate to the value of these properties and the uses they are put to is an important factor in public policy consideration. If present indicators are correct, the value of information will increase in our economy, the value of creators' contributions increasing with it. Then the question becomes how will society distribute the benefits of this vast new wealth equitably.

Artists have welcomed the introduction of new technologies. In them they see new tools and new possibilities for the creative expression that they have dedicated their working lives to. Having embraced the possibility of new abundance and new opportunities for creativity, artists wish to emphasize that they are not the passive recipients of change, that they wish to

be partners with public policy makers in channeling the uses of technology.

The Issue Of Incentives--The Climate For Survival

"Sure it's true that I'd continue to draw even if I wasn't being paid according to a value for value exchange; but I sure as hell wouldn't be drawing the proverbial 'whale of a sale' or even illustrations for magazines. I'd be forced to make a living--pay my rent and buy food and clothes another way, I'd save my creative output for my personal ideas and projects."

Jeff Seaver, President of the
Graphic Artists Guild

Creators are often placed in conflict with their own rights as individual entrepreneurs because of the perception that they "like what they do," or are "driven to create." While it is true that most creators have a drive to create their images and interpretations of ideas, they are also important contributors to the marketplace and should not be penalized for their special inspirations or talents.

Marketability Not Charity

The copyright system was developed in recognition that creators hold a special place in our society's goal of the diversity and free flow of information. It was also developed because creators in general have less power in the marketplace than the entities that purchase their services. The copyright system continues to be the primary means our society has of encouraging creators. It is, in fact, the preferred system in the eyes of individual creators since it enables them to support themselves through their contributions to society rather than on a "donation" basis. It also allows them to take their rightful place in the economic system as working people contributing to society.

Misconceptions

Despite the history of authors' and artists' efforts in the early days of our country to lobby for protections of their 'natural rights' to benefit from their authorship, mythologies regarding how artists work and their role in the economy may interfere with forming an accurate picture about how this group of working professionals survives. Too often artists are portrayed as free spirits unwilling to be concerned with the challenges of daily life, or passive and unable to grasp opportunities to act on their own behalf. This misapprehension must not be allowed to prevent artists from participating in shaping policy that will determine the uses of technology.

In the public's mind, the image of creative professionals is synonymous with "stars." However, the truth is that writers and artists on whose skills most major sectors of the economy depend, barely make a living. According to the NEA, artists' real earnings declined by 37% during the 1970s. At the same time, other research has consistently supported the contention that creative professionals are productive members of our society whose contributions to the national GNP are not questioned. As our society becomes more dependent on the communication of ideas, the position that artists need not be compensated for their contributions becomes less and less defensible.

Value For Value

If we are moving towards an information society, then the

producers and distributors of that information must be assured of a value-for-value exchange for their work. We see no conflict between the author's benefit and the public good, but rather an interdependence. Public policy can help determine who will benefit from the information, who will have access and how will creators continue to be encouraged to produce for the marketplace. Technology cannot make those decisions, but can be the means through which those decisions are implemented.

Despite the widespread ignorance of an artist's skill and importance to our economy and society, the public has been surprisingly understanding of the need for a creator to benefit from the use of his or her work. Surveys that have been done show an informal code of ethics the public applies to the use of artwork and suggest that public education regarding policies on new technologies could be important.

Authorship Rights

The potential for 'image-banking' is perhaps the most alarming factor associated with the spread of access to new technology. Control of the use of an artists work, and remuneration for the use of that work to the artist is integral to their survival. New technologies make abuse of this "property right" easier and more accessible. And the question of unauthorized usage of an image is particularly disturbing in the absence of a federal 'moral rights' standard (artists authorship rights or moral rights laws exist in several states at present.) When no guidance is available through law, the public has not been educated regarding the implications of the theft of an image. Artists are certain that, in the absence of authorship protections, in the words of computer graphics artist, Lauretta Jones, "Chaos will be the result."

Creators, including artists, photographers and writers, have argued against the use of work for hire as a provision of the law that negates the intent of the copyright law. Artists are concerned with issues of authorship, maintaining control of uses of the images or other creative product that an author creates, and benefiting by receiving adequate compensation for the use of those images in the future.

Technology: Engine or Engineer

"David Ladd, Assistant Librarian of Congress for Copyright Services, described the prevailing mood in the copyright world as 'dread that brilliant technologies will overwhelm authorship. There is danger. But the greater danger is that of despairing and accepting that result as inevitable.'"

Publishers Weekly, April 27, 1984

If technology is the "engine of change" then public policy is the engineer who decides how and when to use the engine, who has access, and the purpose of the use of the engine. If public goals are established then the engineer will make choices about the use of the engine based on those goals. While we are certain that technology can affect society, it is up to the society to determine how to shape that effect.

Technology is a tool which does not alter the relationship between the creator and the work. As Guild member Milton Glaser says,

"In some respects, the quality of art is affected by the new technologies in much the same way that poetry was affected by the development of the typewriter. The basic relationship

between the creator and work is not altered, only the tools have changed."

The way that technology is being described presently and the uses being promoted to the public, has created an illusion of technology as the determining factor in social change.

"We won't even try to tell you everything you can do with ThunderScan, but here are some ideas: create collections of clip art. Insert illustrations into a report. Copy somebody else's drawing, when you can't draw very well. Make a copy of a photograph to include in a letter..."

From the ThunderScan Operating Manual on how their software can be used.

Marla Milne, a computer graphics artist and member of the Graphic Artists Guild says,

"It's not so much the technology as it is the way the technology is being sold. Many companies are trying to create the illusion that the technology can replace creativity because anyone can copy an artist's work. If that attitude persists and grows, then artists' creative property and livelihoods will become totally vulnerable."

Computer graphics artist and Guild member Lauretta Jones adds,

"It's extremely important for artists to be involved now. One reason I enjoy computer graphics is that I have input into how standards and pricing are done in the field before it solidifies. I have already had some success in that. As I can do that, all of us can have an effect on policy to regulate this new field, to protect creator's interests."

In the absence of public policy decisions technology becomes an engineerless engine with negative results for society's goals. As songwriter George David Weiss says,

"The concern of the theft of my work interferes with the creative process...these new technologies make piracy even easier...People are constantly using my work without paying me--I can't make a living under those circumstances..."

Access To Technology

Creators must continue to be proficient in using the "technology," be it a typewriter, pen and brush or a computer. Experimentation to test the limitations of technology has led to discoveries and refinements of other technologies as well. It is true that access to the technology and to training will be the key to who will excel as technology becomes available.

With access to training, artists can create the new 'graphics vernacular' to transmit society's messages in a vital and immediate way. A lively dialogue is now underway in the professional arts community regarding the new vernacular. Society benefits from having a diverse pool of creators able to participate in that dialogue.

The Technical Training Gap

For those artists who are still honing their skills in school, it is less of a concern since many schools now have sophisticated training systems available for the use of their students. For those already in the field faced with retraining so that their technical skills will be on a par with students

just leaving school, access is a key question. Most current training programs that we are familiar with offer access to only one system, and are not necessarily structured so that an artist can have the substantial block of time necessary to experiment with the tool. The existing programs for professionals in the field are often prohibitively expensive as well. Yet, we are not aware of any scholarship programs which offer financial support for professionals to retrain on new technology.

Creators are currently reaching out for affordable training programs. The Guild runs courses for professionals who are interested in continuing their technical education by training on computer. Without these programs those with the means to obtain access to sophisticated machines will outstrip those who do not currently have the financial backing. This would set up a situation where wealth rather than talent determines who will be able to survive in the marketplace.

Access As Goal

Already, without affordable training and equipment, sophisticated systems are often out of reach of individual creators. There are a variety of solutions that could be created if public policy establishes access to technology for a diverse pool of creators as a goal.

Government grants and encouragement of private support for trainir could empower representative organizations of artists with the ability to bridge the training gap. Some artists have already established new technology cooperatives to ensure that they will not be left behind as technology advances.

Technology in and of itself should not determine whether artists can participate in the creative process. Public policy can determine whether affordable educational opportunities and the tools themselves are available.

Technology Can Protect And Enforce Society's Goals.

Computers and their related technologies are systems without intrinsic values or goals. Society has already determined the means of identifying what an original is and who a creator is. Furthermore, society has ascribed value to that determination and to ownership and authorship rights. In this context, technology can become a tool to help society meet its established goals. Public policy's role in this consideration is to define and encourage areas in which technologies should be developed that support stated goals.

The potential that technology can be used to create opportunities to steal has been thoroughly examined. However, technology can also provide the means to protect. Encryption, new tools for social education, and the facilitation of communication to help the community establish legal standards are all positive uses of technology to protect the goals that society has established and the value of works created to meet society's need for images that communicate society's ideas. The discussion of the enforcement issue can only be carried out effectively after goals and policy direction is agreed on.

There are standards and tools for enforcement in existence. HBO and other entities have learned how to scramble signals to protect the value of their product. Stories abound of artists who will provide access to their work only if adequate protections are available, and of programmers who come up with systems to keep people from stealing their software. New

technologies have also made it possible for entities like ASCAP and BMI to track the usage of creators' works.

The Creative Challenge

While there is the potential for great harm to creators, this technology offers the potential of great creative advances. A public policy emphasis for research into technologies that will support the goal of protection of authorship may be the critical factor in bringing those technological capabilities into being. It may well be that the future for creators under these changes will offer the ability to maintain complete control of a creation from conception to end product while offering the ability to explore and develop many solutions for arriving at the most esthetically and creatively satisfying product.

Guild member Lauretta Jones responds,

"It seems to me that we need broader protections rather than lesser. This new technology may be capable of eventually finding ways to protect originals. Why narrow the law now or do away with it completely when what we need is as much flexibility as possible while the technology is in such flux. At least if I have the letter of the law behind me, I have some recourse to protect my work and my livelihood."

The problem of unremunerative or unauthorized transfers of rights has been with us for a long time. The development of new computer technology, however, puts this problem on a new level. With advanced technology, anyone is able to reproduce almost any piece of art on computer. The technology already exists that enables alteration of artwork to any surface or use. However, with the appropriate encouragement, we have no doubt that technology can also facilitate a solution.

The framework provided by intellectual property policy has been flexible enough, not only to accomodate changes required by the new technologies. Organized participation by creators in shaping new policy and discussing its impact is integral to the process.

A forceful public policy stance supporting the right of creators to benefit from the use of their works and to control the uses, along with a public education campaign reinforcing these goals, can also help determine the outcome of the questions raised about enforcement.

Alternatives To Authorship Rights

All creative professionals face decisions on how to balance their time drawing, taking pictures and writing with time maintaining a successful career, i.e. the administration of their businesses. Many artists become quite adept at and enjoy the business end of their careers and see that activity as a more attractive alternative to the patronage or gallery system. Protections that balance the inequities in the marketplace, such as authorship rights' laws and fair practices standards, allow them to act as equal partners with the buyers of their services.

If technology will intensify questions concerning tracking uses and payments for uses, creative professionals must know that violations of public policy and ethical standards will be treated seriously.

Alternatives to the existing support systems, i.e. the copyright law and moral rights, have been found unsatisfactory as they apply to creative professionals in the commercial market.

The copyright law and other intellectual property law were promulgated precisely because the patronage systems did not operate effectively in the marketplace for certain types of activity.

Patronage traditionally provides incentives for artists to pursue non-market-oriented goals. However, some kind of patronage might be effective in providing access to technological equipment. Public policy could stimulate grants for access to extraordinarily expensive equipment in order to encourage use and advancement of skills by creative professionals, inventors, and others.

Best And Worst Case Scenarios

We agree with the value of an information rich society and in the need for diversity of expression and interpretation. We also believe that the protections for creators of information and access to information are not conflicting goals, rather the two depend on each other. Very few creative professionals produce for the market on a solely altruistic basis. In order to ensure general access to a large pool of ideas, expression and interpretation, society must encourage creators through protections that help ensure their economic survival.

Job Creation Or Elimination

As with the advent of any new tool, skills change to meet needs. There is always confusion in a transitional period of this type. Computer graphics technology is too new to make any assessment of its impact on jobs. The first and most important task is to monitor what is happening in the marketplace as artists need to acquire new skills to use new technologies. Monitoring would include a review of the type and number of jobs in different market sectors today, and skills and level of experience needed. It would also include ongoing monitoring of changes underway: are certain jobs disappearing; new positions being created, new skill requirements for jobs; increased/decreased skill levels for specific jobs; net effect on the job market for artists. technologies require new skills to operate. That is: what jobs exist, what changes in skill level and training are required and how fast will the market adapt to these changes.